United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Cornell University
Agricultural Experiment
Station

Soil Survey of Oneida County, New York

How To Use This Soil Survey

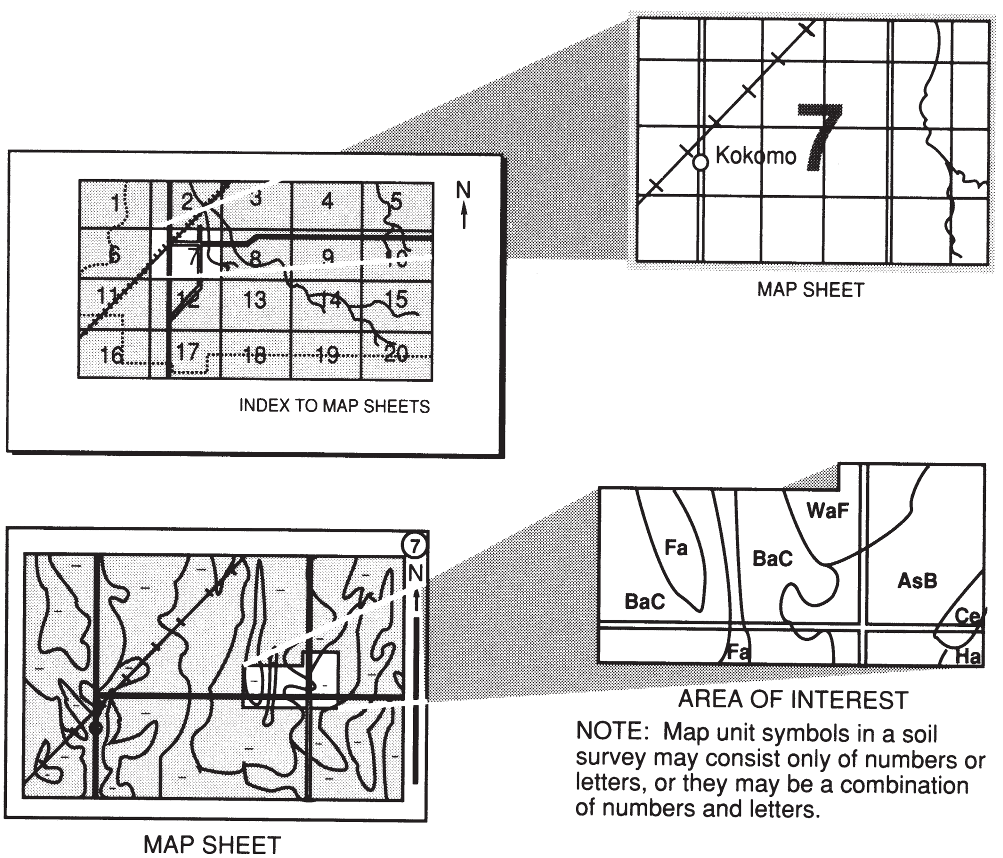
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Cornell University Agricultural Experiment Station. Partial funding for the survey was provided by the Oneida County Legislature and by the New York State Department of Agriculture and Markets. The survey is part of the technical assistance furnished to the Oneida County Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 1991. Soil names and descriptions were approved in 1993. Amendments to soil names and descriptions were made in 1993, 1997, 2006, and 2007. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1991. The most current official data are available in Web Soil Survey (http://websoilsurvey.nrcs.usda.gov/app/).

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover Caption

An area of the Bridgewater Flats in southern Oneida County. The flats have a rich diversity of soil types and many land uses, including farming, residential development, and wildlife habitat. The woodland at the base of the hayfield consists of poorly drained Lyons silt loam and Adrian muck, which provide important habitat for wetland habitat. The fields in the middle of the picture consist mainly of Howard and Phelps soils, which are prime farmland used for corn and hay. The more sloping and potentially erosive Manlius, Galway, and Honeoye soils on the hillside are used for wood products, pasture, and hay.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2008

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cornell Cooperative Extension Service.

Ronald Alvarado
State Conservationist
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Soil Survey of
Oneida County, New York

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United States Department of Agriculture, Natural Resources
Conservation Service, in cooperation with Cornell University
Agricultural Experiment Station

ONEIDA COUNTY is in the central part of New York State (fig. 1). It is bounded on the north by Lewis County, on the east by Herkimer County, on the south and southwest by Otsego and Madison Counties, and on the west by Oneida Lake and Oswego County. The total area of Oneida County is 805,900 acres, or about 1,259 square miles (including water). Utica is the county seat.

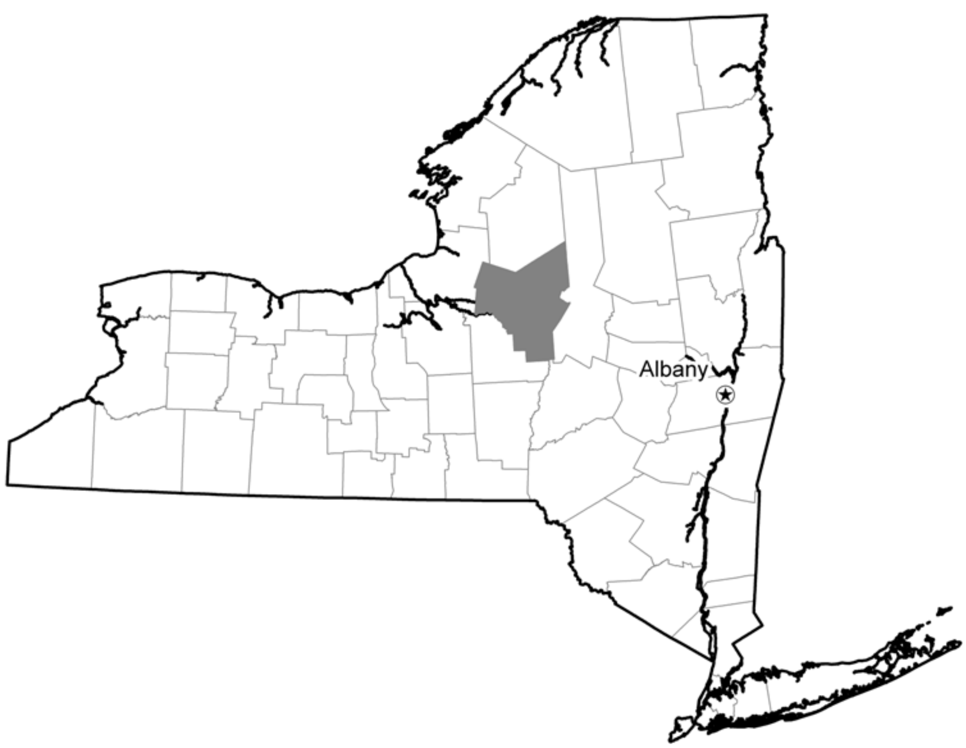

Figure 1.—Location of Oneida County in New York.

According to the U.S. Census Bureau, Oneida County had a population of 236,465 in the year 2000, a decline of about 6.1 percent from the 1990 census.

Approximately one-half of the land area in Oneida County is used for active farms. About 50 percent of the farmland is used for crops, 25 percent is used as pasture, and 25 percent is used as woodland. These proportions vary throughout the county, depending on physiographic region.

Dairy farming is the most important agricultural enterprise in the county.

A less extensive acreage is used for vegetables or cash crops. Woodland, including small woodlots on farms, makes up about 50 percent of the county. Most wooded areas are concentrated in the northern part of the county, and a smaller concentration is in the southern part. Some large tracts are owned by the State of New York and include part of the Adirondack Preserve.

This soil survey updates an earlier survey of Oneida County, New York, published in 1915 (Cornell University, 1915). It provides additional information and has larger scale maps that show the soils in greater detail on aerial photographs.

General Nature of the County

This section gives general information about the county. It describes history and development, geology, physiography and surface drainage, and climate.

History and Development

Excerpted from several sources but mainly from “The History of Oneida County,” written in part by Harry Jackson, Ph.D., Professor of History, Utica College of Syracuse University, and edited by Ed Stein.

“Oneida” is a corruption of the Indian word *Oneiyuta*, signifying upright or standing stone (Barber and Howe, 1841). The history of Oneida County developed both through the impact of traders and settlers bringing in new goods and ideas and through the development and use of natural resources.

The history of Oneida County begins with the Oneida Indians, who occupied the general area in pre-Dutch times. They hunted, gathered, and fished along the Mohawk River, Sauquoit Creek, the Oneida River, Oriskany Creek, and Oneida Lake. They lived in harmony with what the area had to offer. They hunted for deer; gathered nuts, berries, and other wild fruits; grew corn and squash; and built shelter from animal skins and from wood provided by the forests. Land had no monetary value, and no individual owned any of it.

When the Dutch came to Albany, New York, and began trading with the natives, the Oneidas began receiving Dutch goods for their furs. European items, such as kettles, knives, guns, and blankets, became desirable. The English took over trading interests from the Dutch in 1664 and the French, out of Canada, also made contact with the Indians. Both the French and the English made efforts to Christianize the Indians. Ft. Stanwix, in the present city of Rome, became a focus for territorial conflicts and for prospective settlers in the area.

In time, the Indian culture was almost eliminated from the area. European land-holding and systematized government became the new way of life. After the Revolution, land patents were given and Yankees from New England bought land for small farms and villages, such as Clinton, New Hartford, and Whitesboro. Roads and bridges, houses, barns, fences, stores, churches, and schools were built. In 1798, Oneida County was formed from Herkimer County (Barber and Howe, 1841), with legally established surveyor boundaries and its own local government and law enforcement system. The title to the lands that now make up Oneida County was secured from the Indians in 1790. Governor Clinton and some of the personages of the State met the prominent chiefs of the Iroquois in what is known as “The Great

Council” at Fort Stanwix. All of the Indian territory in the county, except for the Oneida reservation, was ceded to the whites (Barber and Howe, 1841).

The development of transportation facilities, such as roads, canals, and then railroads, was intensified by the settlement of land in western New York and in Ohio and by expanded markets in those areas. The Erie Canal, which was to provide cheap and dependable transportation, was begun in Rome in 1817, and its whole length, from Buffalo to Albany, was in use by 1825. Its transportation successor, the railroad, quickened the pace of transport. The Utica and Schenectady Railroad opened in 1836. Linkage with the New York Central in 1853 provided access to more extensive markets and encouraged the development of manufacturing as a viable enterprise. As rail transportation needs grew from agriculture to industrial growth and passenger travel, Oneida County grew with the expansion. Eventually, Utica became one of the largest railroad freight yards in the New York Central system.

The greatest natural resource in Oneida County has been its fertile soil; however, the county has been home to many industries since it was established. Because the county was heavily forested in the early days, timber and lumber were the first industrial products (Barber and Howe, 1841). Sawmills and gristmills were located along many of the creeks and streams that could be dammed. With the discovery of glass sand in the area, the first large factory in the county was a glass factory organized in 1809 at Verona. It remained in operation until 1836. Another glass factory was in operation in Utica.

Sheep were brought to the county shortly after the Revolution. The first mill in New York State for weaving wool was started in Whitestown (Whitesboro) around 1808. Wool and cotton textile industries flourished, and the county became one of the leading manufacturing areas in the State (Barber and Howe, 1841). Oriskany Creek and Sauquoit Creek became particularly good locations for textile mills. During the 1840s, many of the mills in the county converted to steam power, using Pennsylvania coal as the chief fuel. Iron was mined and forged in the county as early as 1797 around Clinton, and ore was being shipped by canal around 1840.

During the early part of the 19th century, the county developed in the areas of religion, education, and the arts. Frame houses replaced log cabins, Welsh and German music became a common part of the community, and an art museum was established in Utica. The revival movement worked its way into the religious arena, and new churches arose and prospered. Educational opportunities expanded. Rome Academy and Utica Academy were formed, and institutions offering advanced training in a number of areas became available. Hamilton College, once the site of a school for Indians, offered a diverse educational foundation. Later, Kirkland College, Utica College, SUNY Tech at Marcy, and Mohawk Valley Community College were established to round out educational offerings.

The single most important employer in the county was the farm, and developments in that area make up much of the history of the 1800s. Subsistence farming and tree cutting led the way to the production of market crops, such as wheat and sheep. In time, milk, cheese, hops, beans, and potatoes became important farm products. Farms were enlarged, and successful farmers became leaders of the community. Immigrants were drawn by the farm work. The Welsh settled around Remsen and Steuben. The Irish were attracted by farm and factory work, as were the Germans and the English. Factory work and service industries drew Jews, Poles, Italians, and many others, swelling the cities of Utica and Rome. In the early 1900s, Poles, Russians, Greeks, Italians, and Arabs continued to come and were joined by an influx of Black Americans from the rural South.

The urban population grew, and internal transportation problems promoted the development of the trolley and the automobile. Roads were paved, and a new State system of good roads came into existence, paralleling the canals and railroads in both north-south and east-west directions. Truck transportation further linked the area with external markets. With the advent of the age of air transportation, Oneida County was linked with the whole world. Currently, the New York State Thruway, I-90, runs through central Oneida County in an east-west direction; Route 5 and Route 20 run parallel to the New York State Thruway; Route 5 is in close proximity to the New York State Thruway; and Route 20 is in the southern part of the county. The county has an extensive network of two-lane roads, some of them expanding to four-lane roads in the more densely populated urban areas. Railroads still serve the county. The Barge Canal replaced the old Erie Canal and still provides water transportation, but today it is used largely for pleasure craft. The Oneida County Airport is between Utica and Rome.

In the twentieth century, the agricultural market consisted mostly of beans, potatoes, and dairy products. By the latter part of that century, many of the family farms had gone out of production. A number of the farms have consolidated into complex dairy operations. During the early and middle parts of the twentieth century, various factories flourished in several parts of the county. By the 1960s, however, the county had lost most of its textile manufacturing. By the close of the century, it had lost many of its factories. Industrial diversification began as the factories were on the decline, and new businesses were established or expanded. Expansion of insurance companies, military- and defense-related production, and automobile dealerships and the establishment of technology corporations helped to diversify the local economy.

Geology

Herman S. Muskatt, Ph.D., Department of Geology, Utica College of Syracuse University, prepared this section.

The paragraphs that follow describe the bedrock geology and glacial geology of Oneida County.

Bedrock Geology

Except for the Proterozoic crystalline rocks of the Adirondacks, Oneida County is underlain primarily by sedimentary rocks that are of Paleozoic age and dip to the southwest at approximately 50 feet per mile. Bedrock surface exposures, generally in east-west trending zones, become younger from north to south across the county.

The Black River Valley, underlain in some areas by Middle Ordovician limestone and in other areas by Proterozoic crystalline rocks, slopes upward to the east, to the foothills of the Adirondack Mountains. Exposed billion-year-old rocks of the Adirondack foothills are metasedimentary rocks and granitic, charnockitic, mangeritic, or syenite gneisses.

West of the Black River Valley, slopes rise upward to the Tug Hill Plateau, which is an outlier of the Appalachian Plateau. Rocks of Ordovician age underlie the Tug Hill area. The oldest strata are limestones of the Trenton Group. They are overlain by younger units of shale, siltstone, and sandstone.

Both the Adirondack and Tug Hill Provinces slope southward to the lowlands of the Ontario Lake Plain and the Mohawk River Valley. Generally, the lowest elevations in the county are in these lowland areas. To the west is Oneida Lake, which is an eastward extension of the Ontario Lake Plain. Elevation at Oneida Lake is 370 feet, which is the lowest elevation in the county. The Middle Silurian Clinton Group in the vicinity of the lake and the Middle Ordovician Utica shale to the east underlie these lowland provinces. The lowest elevation of the Mohawk section, about 396 feet, is at the eastern border of the county. An elevation of about 419 feet at Rome divides the Mohawk and Oneida Lake watersheds.

Southward from the lowlands, slopes rise upward to the Appalachian Plateau. Tassel Hill, about 3 miles east of Waterville, is the highest point in the county. It has an elevation of 1,945 feet. It is part of an essentially east-west ridge that divides the Mohawk and Susquehanna River watersheds. Bedrock units of Middle Silurian to Middle Devonian age underlie the plateau. The younger Devonian formations are in the southernmost part of the county.

Glacial Geology

The county was covered by several continental ice sheets during the Pleistocene Epoch (approximately 2 million years ago). Geologic age dating techniques suggest that the most recent glacier left this area during the Wisconsin Glaciation, only about 10 to 12 thousand years ago. At the farthest advance of the glacier, moving ice nearly 1 mile thick covered the county, extending hundreds of miles northward. The glacier caused tremendous amounts of erosion from both abrasion and bedrock “plucking,” by pressure melting and refreezing of the ice as it moved. The present topography is a result of prior glaciations and subsequent erosion and mass wasting.

Before the ice sheet overrode the highlands, glacial lobes moved through the major valleys, deepening and widening them. Glacial erosion crushed and fragmented rocks into a heterogeneous mixture of boulders, angular stones, gravel, sand, silt, and clay. This mixture was transported beneath, within, and on top of the glacier, sometimes for many miles, before it was deposited by the ice or by meltwater. A deposit of this mixture is called glacial till. The composition of the till is largely determined by the local bedrock from which the till was derived. The thickness of the mantle of till ranges from a few inches to tens of feet. Most of the uplands in Oneida County are covered by till. Many of the soils in the county formed in till.

Large recessional moraines formed during the last glacial advance, plugging many major valleys, such as Black River, Oriskany-Clinton, and Sauquoit-West Branch Unadilla valleys. These moraines consist of unsorted, unstratified deposits of till adjacent to the stagnant ice front.

When the climate warmed again after long periods of glaciation, the glaciers melted back northward faster than they were flowing southward. This melting created tremendous amounts of sediment-laden water occurring as rivers and lakes. Tongues or flows of ice tended to remain in the larger valleys long after the uplands were relatively free of ice. Large amounts of meltwater flowed along the sides of and beneath the stagnant valley ice masses, washing through the rocky and muddy debris. This process tended to separate and sort the finer silt and clay from the sand and gravel. Eventually, the valley ice masses melted and receded, and the valleys were exposed. The resulting landforms and deposits are distinctly different from those in the uplands. When discharged from the glacier, the meltwater deposited sorted and stratified glaciofluvial (stream-laid) drift as eskers, kames, and valley trains. Deposits from subglacial streams resulted in eskers. In some areas kames are steep and rolling hills or terraces along valley walls. Nearly level to somewhat undulating valley trains are on the floor of many valleys. These proglacial fluvial deposits are generally referred to as outwash deposits. Gravelly terraces and kames occur in areas where washed and sorted debris was deposited, generally on the margins of the major valleys, such as those of West Canada Creek and the Mohawk River. Because of these terraces and kames, this part of the landscape appears somewhat lumpy and bumpy. The outwash deposits commonly are valuable sources of sand and gravel.

The stagnating remains of the valley glaciers blocked off the outlets of some meltwater streams and thus created lakes. The lakes lasted until the dams of ice melted. The melting often took many years. Proglacial lakes formed in several valleys where meltwater was trapped between valley-blocking moraines and the ice front. Glaciolacustrine (lake-laid) deposits of clay, silt, and sand are in many of the valleys.

In the deeper quiescent lakes, silt and clay settled out and accumulated. In the shallower, more agitated lakes, fine sand and silt were deposited. Extensive areas of the finest textured (clayey) deposits occur in the valley of Oneida Creek, in the town of Verona. Coarser lake-laid deposits occur in many valleys throughout the county, although they commonly underlie more recent flood-plain deposits. An example of an area of these coarser lake-laid deposits is in the town of Rome, between Fish Creek and Wood Creek. Extensive areas of the coarser lake-laid deposits also occur in the highlands east of the Black River, at elevations commonly much higher than those of the valley floor.

With exposure of the Ontario Lowlands (the Oneida Lake Plain), during recession of the ice, a large proglacial lake formed. Large amounts of clayey and silty lacustrine sediment and sandy deltaic deposits were laid down. Oneida Lake is a minor remnant of this vast proglacial lake, called Lake Iroquois. Waters from Lake Iroquois emptied out in an eastward direction through the Mohawk Valley. The huge volume of flow scoured and widened the valley. Drainage from this ancient lake shifted to the north through the valley of the St. Lawrence River once the lake was free of ice.

Under freeze-thaw conditions, which were common in areas of postglacial and periglacial conditions, water-saturated glacial drift that was deposited on valley sides flowed or slumped onto some of the lower valley slopes and bottoms. This type of mass wasting, referred to as solifluction, leaves behind poorly sorted sediment.

Silty alluvial sediment deposited along the flood plains of streams and organic material accumulated in swampy areas are examples of more recent material that is not of glacial origin. These kinds of material cover a small percent of the land area in the county.

The soils in the county formed mainly in glacial deposits. The epoch since the glaciers left their new deposits on the landscape in Oneida County is a short period of time in terms of geology and soil formation. Erosion and the accumulation of sediment continue to affect the landscape. The rates of these processes can be greatly accelerated by human activities.

Physiography and Surface Drainage

The paragraphs that follow describe the physiographic features and surface drainage pattern in Oneida County.

Physiography

Oneida County is in seven distinct land regions or major physiographic provinces of New York State. These regions are different in terms of climate, relief, types of flora and fauna, bedrock, and glacial geological history. The accumulated effects of these differences result in different soils and therefore in various land uses and potentials for those uses.

The topography ranges from the nearly level terrain of river valleys to very steep hillsides in the foothills of the Adirondack Mountains, in the northeastern part of the county. Low elevations, about 370 feet above sea level, are at the western edge of the county, along Oneida Lake. High points include Penn Mountain (1,813 feet above sea level), southwest of Alder Creek, in the town of Steuben, and several ridgetops in the southeastern part of the county (about 1,920 feet above sea level). The highest point in the county is east of Waterville, on Tassel Hill (1,945 feet above sea level). About 32 percent of the land in the county north of the Mohawk River is above an elevation of 1,000 feet (the elevation above which soils generally have a frigid temperature regime).

Ontario (Oneida) Lake Plain.—This region makes up about 72,800 acres in Oneida County. The numerous kinds of soil on this plain formed mainly in lacustrine material derived from sandstone, siltstone, shale, and limestone. Relief is low on this flat plain. The land is generally used for dairying. Some land on many farms is idle because of poor drainage. Brushy woods occur in several large areas of acid, sandy soils. The poor drainage and the difficulty of finding drainage outlets are the chief limitations affecting agricultural production. Grassland farming dominates.

Erie-Ontario Lowland.—This region makes up about 195,600 acres in Oneida County. It is an extension of the areas in the northwestern parts of New York that roughly parallel the New York State Thruway from Buffalo. In Oneida County, it is represented by an area of higher relief than that in western New York. The soils formed in glacial till with a high content of limestone. In general, the land north of Route 5 has low to moderate relief and is dominated by the wetter soils. The land south of Route 5 has moderate relief. The percentage of land used for agricultural production is higher in this region than in any other region in the county. Dairying, general farming, and cash crops are the main types of agriculture. Most of this region is very productive.

Allegheny Plateau.—This region makes up 14,428 acres in Oneida County. It covers almost one-half of New York State, including the southern tier of counties from the Hudson River to Lake Erie. It is in the southernmost part of Oneida County. The soils formed in glacial till derived from siltstone, sandstone, and shale. Relief is moderate to high. About 80 percent of the acreage is wooded. Some of the wooded tracts are owned by the State. Some land is idle and is reverting back to woodland. This region is known for its large population of deer.

Black River-Mohawk River Lowland.—This region makes up about 171,000 acres in Oneida County. The soils formed in glacial till derived from shale and some sandstone. Relief is moderate. This region has a measurably shorter growing season and higher annual snowfall than the areas south of the Mohawk River. The region is used mainly for dairy farming and is suited to grassland farming.

Tug Hill Plateau.—This region makes up about 151,600 acres in Oneida County. The soils formed in glacial till derived from sandstone and some shale. They are rolling and are low in content of lime. Relief is moderate. This region has a measurably shorter growing season than the more southern areas and has the highest amount of annual snowfall in the county. The land is dominantly wooded. Much of the land is abandoned. The State has reforested some areas. A few dairy farms are on some of the better soils in the region.

Adirondack Foothills.—This region makes up about 77,100 acres in Oneida County. The soils formed mainly in outwash and glacial till derived from crystalline metamorphic rocks. They are very low in content of lime. Relief is moderate. The southern part of the region is rolling and has some large areas of level soils that tend to be droughty. The northern part has higher relief and many swampy areas and lakes. Most of the land is wooded, and some is abandoned. Reforested State land is part of the New York State Forest Preserve. This region has a measurably shorter growing season and a higher amount of annual snowfall than the southern regions of the county.

Mohawk Valley and other valleys.—This region makes up nearly 123,400 acres in Oneida County. The soils formed mainly in alluvial and outwash deposits derived from the rocks upstream. In the southern part of the county, the soils formed in material weathered from sandstone, shale, and limestone. The Mohawk Valley consists of well drained to poorly drained bottom land that is subject to flooding. The agricultural land in the region is used mainly for cash crops and dairying. These valleys are very fertile and highly productive (fig. 2).

Surface Drainage

The principal drainage pattern in Oneida County is dendritic. This pattern is somewhat modified in places by bedrock and glacial features.

Figure 2.—The valley soils in southern Oneida County are highly productive for most of the crops grown in the area. The soils on the farm in this picture include Nellis, Amenia, and Phelps soils, which are considered prime farmland. Photo by Christopher Cirillo, a local artist and crop scout/intern for the Oneida County Soil and Water Conservation District.

The streams in the county flow west to the Great Lakes, east to the Hudson River, and south to the Susquehanna River. Five river drainage basins divide the county—the Black River basin to the northeast, the Eastern Oswego basin to the west, the Mohawk basin to the east, the West Canada Creek subbasin to the east, and the Susquehanna basin to the south.

The Black River, which flows northward, drains the northeast corner of the county. Several streams that flow southward toward Fish Creek drain the northwest corner of the county. Fish Creek enters the Barge Canal and then Oneida Lake near Sylvan Beach. Scondondoa Creek drains the southwest corner of the county into Oneida Creek, which flows northwestward into Oneida Lake. Nine Mile Creek, Cincinnati Creek, and the headwaters of the Mohawk River drain the north-central and east-central parts of the county southward. Big Creek, White Creek, Deans Creek, Oriskany Creek, and Sauquoit Creek drain most of the southern half of the county northward into the Mohawk River, which then flows eastward. West Canada Creek drains a small section of the eastern part of the county. The Sangerfield River, Beaver Creek, and the West Branch of the Unadilla River, all of which flow southward and eventually flow into the Susquehanna River, drain the southernmost part of the county, including parts of the towns of Sangerfield and Bridgewater.

Although the county has distinct drainage basins, waters from the major basins intermingle in the county because of the New York State Barge Canal system. Oswego basin waters enter the Mohawk River via Oneida Lake and the canal. Black River waters enter the Mohawk River via old canals and feeder canals that enter streams, such as Nine Mile Creek.

Oneida Lake is the largest naturally occurring lake in the county. The county has several smaller natural lakes, most of which have man-made dams that have increased their size. The Forestport and Delta Lake Reservoirs supply water to maintain canal elevations and to generate hydropower. Also, part of the Hinckley Reservoir occurs in Oneida County.

Climate

Oneida County is typically cold and snowy in winter and warm in summer. Precipitation is well distributed during the year and is adequate for most crops on most soils. From late fall through winter, snow squalls are frequent in various parts of the county, and total snowfall is normally heavy. In some years, a single prolonged storm can leave more than 2 feet of snow on the ground and strong winds can create deep drifts.

Table 1 gives data on temperature and precipitation for the survey area as recorded in the period 1971 to 2000 at Utica and Boonville, New York. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Tables 3a and 3b provide data on length of the growing season.

Because the southern part of the county is different from the northern part, climatic data are provided for two weather stations. Typically, data on temperature, precipitation, and snowfall in the northern part of the county are similar to the data obtained from the Boonville station. The northern part of the county tends to have higher precipitation and snowfall, cooler temperatures, and a shorter growing season than the southern part. The data obtained from the Utica weather station better reflect the climate and growing conditions in the Mohawk Valley and the southern part of the county. The Utica weather station is at an elevation of 710 feet and occurs in the mesic soil temperature regime. The Boonville weather station is at elevation of the 1,580 feet and occurs in the frigid soil temperature regime.

In winter, the average temperature is about 24 degrees F at Utica and about 19 degrees F at Boonville. The average daily minimum temperature is about 17 degrees F at Utica and 11 degrees F at Boonville. The lowest temperature during the period of record was -27 degrees F at Utica and -31 degrees F at Boonville, the one at Boonville occurring on January 4, 1981. In summer, the average temperature is 68 degrees F at Utica and 64 degrees F at Boonville. The average daily maximum temperature is about 78 degrees F at Utica and 74 degrees F at Boonville. The highest recorded temperature during the period of record was 96 degrees F at Utica and 94 degrees F at Boonville, the one at Boonville occurring on July 9, 1988.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall. The average yearly total is 4,381 growing degree days at Utica and 3,550 growing degree days at Boonville.

The total annual precipitation during the period of record averaged about 45 inches at Utica and 60 inches at Boonville. At Utica, about 23 inches, or 52 percent, usually falls from April through September. At Boonville, 24 inches, or 40 percent, usually falls from May through September. The growing season for most crops falls within these periods. In 2 years out of 10, the rainfall for the period April through September at Utica is less than 15 inches or it can be more than 30 inches. In 2 years out of 10, the rainfall for the period May through September at Boonville is less than 15 inches or it can be more than 32 inches. Thunderstorms occur on about 28 days each year.

The average seasonal snowfall is about 96 inches at Utica and about 216 inches at Boonville. Throughout Oneida County, January is the month that usually receives the most snowfall. Utica usually receives an average of about 26 inches of snowfall in January, and Boonville receives about 59 inches. On the average, at least 1 inch of snow is on the ground on 87 days of the year at Utica and 141 days at Boonville. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 60 percent of the time possible in summer and 30 percent in winter. The prevailing wind is from the west-southwest. Average windspeed is highest, 11 miles per hour, in the spring.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in Oneida County. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the county occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the county. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the county and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the county and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the county, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the county, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the soil maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the soil map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Chenango gravelly fine sandy loam, 3 to 8 percent slopes, red substratum, is a phase of the Chenango series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alton-Urban land complex, 0 to 3 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Howard and Alton gravelly loams, 15 to 25 percent slopes, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarry, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1—Udifluvents-Fluvaquents complex, frequently flooded

This unit consists of very deep, nearly level, well drained to very poorly drained soils that formed in recent alluvial deposits. It is on flood plains and is subject to frequent flooding, which results in stream scour, lateral erosion, and shifting of soil from place to place. This unit is about 50 percent Udifluvents, 35 percent Fluvaquents, and 15 percent other soils. The Udifluvents and Fluvaquents occur in such an intricate pattern that they were not separated in mapping. The content of gravel and drainage vary greatly within short distances. Areas of the unit are mostly long and narrow, but a few along large streams and rivers are wider. The areas are as much as 575 acres in size but typically are less than 85 acres. Slopes range from 0 to 3 percent.

The sequence, depth, and composition of the layers of the Udifluvents are highly variable, but an idealized pedon is as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 1 percent rock fragments
4 to 12 inches, dark grayish brown gravelly loam, 15 percent rock fragments

Substratum

12 to 37 inches, dark yellowish brown silt loam, 5 percent rock fragments
37 to 72 inches, brown, stratified very gravelly silt loam, loam, and fine sandy loam with a few dark gray redoximorphic depletions, 35 percent rock fragments

The sequence, depth, and composition of the layers of the Fluvaquents are highly variable, but an idealized pedon is as follows—

Surface layer

0 to 7 inches, very dark gray silt loam with common dark reddish brown redoximorphic concentrations

Substratum

7 to 14 inches, dark greenish gray silty clay loam with common strong brown redoximorphic concentrations

14 to 45 inches, dark gray silt loam with a few dark yellowish brown redoximorphic concentrations, firm, slightly effervescent

45 to 72 inches, dark gray silty clay loam, firm, slightly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 2 acres in size. They are as follows—

- Spots of well drained Hamlin, somewhat poorly drained Wakeville, and poorly drained Wayland soils, which generally are on the slightly higher parts of flood plains or in areas that are less prone to stream shifting, scouring, or cutting than the Udifluvents and Fluvaquents
- A few small areas of somewhat poorly drained Kendaia and poorly drained Lyons soils, which formed in glacial till in the uplands
- Along major stream valleys, some narrow areas of somewhat excessively drained Howard, Alton, and Chenango and somewhat poorly drained Fredon soils, which formed in glacial outwash
- In depressions, very poorly drained Carlisle and Palms soils, which formed in organic deposits
- Some areas of soils that have more pebbles or cobbles on the surface than the Udifluvents and Fluvaquents

Soil Properties

Udifluvents

Permeability: Generally ranging from slow through rapid throughout the mineral soil profile

Available water capacity (40-inch profile): Ranging from very low through high

Soil reaction: Very strongly acid through neutral throughout the profile

Depth to a seasonal high water table: Variable but typically 2.0 to 6.0 feet from November through May

Flooding: Frequent, brief to long, October through June

Depth to bedrock: More than 60 inches

Fluvaquents

Permeability: Generally ranging from moderately slow through rapid throughout the mineral soil profile

Available water capacity (40-inch profile): Ranging from very low through high

Soil reaction: Very strongly acid through neutral in the surface layer and very strongly acid through moderately alkaline in the substratum

Depth to a seasonal high water table: Variable but typically 0 to 1.5 feet from October through June

Flooding: Frequent, brief to long, October through June

Depth to bedrock: More than 60 inches

The properties and characteristics of this unit vary from place to place. In some areas the properties are similar to those of the adjacent soils on flood plains.

Use and Management

Most areas of this map unit support native grasses, brush, or trees. A few small areas are used as pasture when they are accessible. Some areas have no vegetation because of frequent stream scouring and deposition.

Cropland.—This unit is generally not suited to cultivated crops because of frequent flooding, variable soil properties, and in some areas restricted accessibility and prolonged periods of wetness.

Pasture.—This unit is generally not suited to pasture because of frequent flooding and in some areas prolonged periods of wetness during the growing season. Flooding is likely to restrict grazing. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks. In some areas accessibility may be difficult.

Dwellings.—This unit is very limited as a site for dwellings because of frequent flooding and in some areas prolonged periods of wetness caused by the seasonal high water table. The adjacent soils that are higher on the landscape and above the flood plain may be better sites. Onsite investigation is necessary to evaluate individual areas. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of frequent flooding and in some areas prolonged periods of wetness caused by the seasonal high water table. Poor filtering and contamination of the water supply can occur during periods of flooding. The adjacent soils that are better drained and are not subject to flooding are better suited to conventional systems. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of frequent flooding, the potential for frost action, and in some areas prolonged periods of wetness. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in a few areas. A better alternative, however, is to construct the roads and streets on nearby soils that are not subject to flooding. Strong floodwater currents are likely to damage or wash out roadbeds. In some areas wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit.

The capability subclass is 5w.

2—Hamlin silt loam

This very deep, nearly level, well drained soil is on flood plains and low terraces adjacent to small streams and large rivers, such as the Mohawk River. It formed in silty alluvial deposits. Areas of this map unit are mainly long and narrow or irregular in shape. They are as much as 172 acres in size but typically are less than 30 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam

Subsoil

8 to 17 inches, very dark grayish brown and dark brown silt loam
17 to 31 inches, dark brown silt loam

Substratum

31 to 72 inches, brown silt loam with a few dark gray redoximorphic depletions

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Otego, somewhat poorly drained Wakeville, and poorly drained and very poorly drained Wayland soils. Wakeville soils are in the lower areas of the flood plains. Wayland soils are in old stream channels and depressions. They are generally more common as distance from the present water channel increases.
- Some areas of soils that have gravelly material within a depth of 40 inches, commonly along or adjacent to some of the smaller, more rapidly flowing streams

Soil Properties

Hamlin soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and the upper part of the subsoil and moderately acid through slightly alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 3 to 6 feet from November through May
Flooding: Occasional, brief, November through May
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and some are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. Flooding is the main management concern on cropland. Normally, it does not occur during the growing season. Occasionally, it delays planting and causes damage in some years. The soil is rarely flooded in autumn, when mature crops could be damaged. Careful management of included areas that have a history of more frequent flooding is needed to prevent crop loss. This soil can be easily tilled when moist. In cultivated areas the surface layer commonly has a thin crust after heavy rains. This crusting reduces the rate of water infiltration and increases the runoff rate. Applying conservation tillage systems, growing cover crops, and leaving crop residue on the surface reduce the extent of crusting, help to maintain or increase the content of organic matter in the surface layer, and increase the rate of water infiltration.

Pasture.—This unit is well suited to pasture. Flooding may restrict grazing, especially early in the growing season. Prolonged flooding may restrict the growth of legumes in some included areas. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—This unit is very limited as a site for dwellings with or without basements because of flooding. The adjacent soils that are higher on the landscape and above the flood plain may be better sites.

Septic tank absorption fields.—This unit is very limited as a site for these fields because of flooding. If the unit is used for this purpose, the ground water can be contaminated. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and flooding are important limitations on sites for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas. If roads must be built across this unit, they should be constructed above the anticipated level of flooding. A better alternative would be to construct roads and streets on nearby soils that are not subject to flooding. Strong floodwater currents could damage or wash out roadbeds.

The land capability class is 1.

4—Wakeville silt loam, occasionally flooded

This very deep, nearly level, somewhat poorly drained soil is on flood plains adjacent to small streams and rivers, such as the Mohawk River. It formed in recently deposited silty alluvium. Areas of this map unit are mainly long and narrow or irregular in shape. They are as much as 283 acres in size but typically are less than 35 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark grayish brown silt loam, 1 percent rock fragments

Subsoil
10 to 15 inches, brown silt loam with a few yellowish brown redoximorphic concentrations, 3 percent rock fragments
15 to 35 inches, dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations and common grayish brown redoximorphic depletions, 3 percent rock fragments

Substratum
35 to 72 inches, gray silt loam with common yellowish brown redoximorphic concentrations, 3 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Moderately well drained Otego, well drained Hamlin, and poorly drained Wayland soils. Hamlin and Otego soils are in the higher areas on the flood plains and commonly occur directly adjacent to the stream or river. Wayland soils are in old stream channels and depressions throughout the unit. They generally increase in frequency as distance from the present water channel increases.
- Some areas that have sandy material in the substratum, especially east of Oneida Lake, along Fish Creek

Soil Properties

Wakeville soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through neutral in the surface layer and subsoil and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through June
Flooding: Occasional, brief, November through May
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or pasture. Some areas are wooded, and some are in weedy or brushy fields. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is moderately suited to the cultivated crops commonly grown in the county. Flooding and the seasonal high water table are the main limitations on cropland. They commonly delay planting in the spring. Heavy rainfall late in spring may flood some areas after corn or other row crops are planted. The soil is rarely flooded in autumn, when mature crops could be damaged. Careful management of included areas that are more frequently flooded is needed to prevent crop loss. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit.

Pasture.—This unit is moderately suited to pasture. The seasonal high water table and flooding may restrict grazing, especially early in the growing season, and restrict the growth of some legumes. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage. Management that excludes livestock from the pasture during periods of flooding or wetness, proper stocking rates, and rotational grazing help to keep the pasture in good condition. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—Flooding and the wetness caused by the seasonal high water table are the main limitations on sites for dwellings. The adjacent areas that are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit and should be investigated.

Septic tank absorption fields.—Flooding and the wetness caused by the seasonal high water table are the main limitations on sites for conventional septic tank absorption fields. Poor filtering and contamination of ground water and streams can occur during periods of flooding. Nearby areas that are not subject to flooding are better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems on this unit. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Flooding, wetness, and the potential for frost action are the main limitations if this unit is used as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas. A better alternative, however, is to construct the roads and streets in nearby areas that are not subject to flooding. Strong floodwater currents could damage or wash out roadbeds.

The land capability subclass is 3w.

7—Wayland silt loam

This very deep, nearly level soil is on flood plains. It generally is poorly drained. In some of the lower areas on the flood plains, however, it is very poorly drained. The soil formed mostly in recently deposited silty alluvium in low areas along streams or drainageways that are subjected to frequent flooding. Areas of this map unit are mainly long and narrow, oblong, or elongated. They are as much as 550 acres in size but typically are less than 51 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark gray silt loam with common red redoximorphic concentrations

Subsoil
9 to 28 inches, very dark gray silt loam with common red redoximorphic concentrations

Substratum
28 to 45 inches, dark gray silt loam, slightly effervescent
45 to 72 inches, dark gray silty clay loam, slightly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 4 acres in size. They are as follows—

- Small areas of somewhat poorly drained Wakeville and moderately well drained Otego soils on the higher parts of the flood plains
- Udifluvents and Fluvaquents on some flood plains where flooding is more frequent and drainage and texture are more variable
- Oblong areas of soils that are mostly sand and gravel
- A few areas of soils that are similar to the Wayland soil but have a mucky surface layer as much as 16 inches thick

Soil Properties

Wayland soil

Permeability: Moderate or moderately slow in the surface layer and moderate through slow in the subsoil and substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and strongly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from November through June
Flooding: Frequent, brief to long, November through June
Depth to bedrock: More than 60 inches

Use and Management

Areas of this map unit are mainly in weedy or brushy fields and are idle. A few areas are used as pasture or woodland.

Cropland.—This unit is generally not suited to cultivated crops because of frequent flooding and prolonged periods of wetness during the growing season.

Pasture.—This unit is generally not suited to pasture because of frequent flooding and prolonged periods of wetness during the growing season. Flooding is likely to restrict grazing. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—This unit is very limited as a site for dwellings because of frequent flooding and prolonged periods of wetness caused by the seasonal high water table. The adjacent soils that are better drained and are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of frequent flooding and prolonged periods of wetness caused by the seasonal high water table. Poor filtering and contamination of the water supply can occur during periods of flooding. The adjacent soils that are better drained and are not subject to flooding are better suited to conventional systems. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of frequent flooding, the potential for frost action, and prolonged periods of wetness. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit.

The land capability subclass is 5w.

9—Wenonah loam

This very deep, nearly level, well drained soil is on flood plains adjacent to large rivers and small streams, such as Fish Creek. It formed in alluvium derived from sandstone, siltstone, and shale. The alluvium is low in content of lime. Areas of this map unit are mainly oval, elongated, or irregular in shape. They are as much as 704 acres in size but typically are less than 100 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam

Subsoil
8 to 17 inches, yellowish brown silt loam
17 to 35 inches, dark yellowish brown loam

Substratum
35 to 45 inches, yellowish brown very fine sandy loam
45 to 55 inches, yellowish brown fine sand
55 to 72 inches, yellowish brown gravelly loamy sand, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Hamlin soils, moderately well drained Otego soils, somewhat poorly drained Wakeville soils, and poorly drained or very poorly drained Wayland soils. Hamlin soils on the same landscape as the Wenonah soil in a few areas and are less acid than that soil. Otego and Wakeville soils are in the slightly lower areas on the flood plains and typically are farther away from the stream than the Wenonah soil. Wayland soils are in old stream channels and depressions. They generally increase in frequency as distance from the present water channel increases.
- A few spots of Unadilla soils on the slightly higher terraces that are not flooded or are only rarely flooded
- A few areas of soils with a gravelly surface layer or subsoil. These soils are adjacent to some of the smaller, more rapidly flowing streams.

Soil Properties

Wenonah soil

Permeability: Moderate in the surface layer and subsoil and moderate or moderately rapid in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Unless the soil is limed, very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through neutral in the substratum

Depth to a seasonal high water table: 3.0 to 6.0 feet from February through April

Flooding: Occasional, brief, November through May

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or pasture. Some areas are wooded, and some are in weedy or brushy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Although flooding can occur, it does not normally occur during the growing season. In some areas, however, especially those on the lower parts of some flood plains, flooding can delay planting and cause minor crop damage in some years. Careful management of included areas that are more frequently flooded is needed to prevent crop loss. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit.

Pasture.—This unit is well suited to pasture. Management that excludes livestock from the pasture during periods of flooding, proper stocking rates, and rotational grazing help to keep the pasture in good condition. The growth of legumes is restricted in included areas where prolonged flooding or wetness occurs. Weed control and applications of lime and fertilizer increase forage yields. Because of the need for good water quality, these applications should not occur during periods of flooding. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—Flooding is the main limitation on sites for dwellings. The adjacent areas that are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit and should be investigated.

Septic tank absorption fields.—Flooding is the main limitation on sites for conventional septic tank absorption fields. Poor filtering and contamination of ground water and streams can occur during periods of flooding. Nearby areas that are not subject to flooding are better suited to conventional systems. State and local health codes may affect the design or prohibit the installation of conventional systems on this unit. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Flooding is the main limitation on sites for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of this limitation in some areas. A better alternative, however, is to construct the roads and streets on nearby soils that are not subject to flooding. Strong floodwater currents could damage or wash out roadbeds.

The land capability class is 1.

10—Otego loam

This very deep, nearly level, moderately well drained soil is on flood plains adjacent to large rivers and small streams, such as Fish Creek. It formed in silty alluvium. Areas of this map unit generally are irregularly shaped, oval, or long and narrow. They are as much as 212 acres in size but typically are less than 25 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 11 inches, very dark grayish brown loam, less than 1 percent rock fragments

Subsoil
11 to 20 inches, brown silt loam, less than 1 percent rock fragments
20 to 31 inches, brown silt loam with a few yellowish brown redoximorphic concentrations and common grayish brown redoximorphic depletions, less than 1 percent rock fragments

Substratum
31 to 72 inches, gray gravelly loam with a few yellowish red and common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Hamlin and Wenonah, somewhat poorly drained Wakeville, and poorly drained or very poorly drained Wayland soils. Hamlin and Wenonah soils are in the higher areas on the flood plains and frequently occur adjacent to the stream or river. Wakeville soils are in the slightly lower or slightly concave areas on the flood plains. Wayland soils are in old stream channels and depressions throughout the unit. They generally increase in frequency as distance from the present water channel increases.
- A few spots of Scio soils on the slightly higher terraces that are not flooded or are only rarely flooded
- A few areas of soils that have very gravelly material within a depth of 40 inches. These soils are adjacent to some of the smaller, more rapidly flowing streams.

Soil Properties

Otego soil

Permeability: Moderate in the surface layer and subsoil and moderate or moderately rapid below the subsoil
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through slightly acid in the surface layer, the subsoil, and the upper part of the substratum and strongly acid through neutral in the lower part of the substratum
Depth to a seasonal high water table: 1.5 to 2.5 feet from November through June
Flooding: Occasional, brief, November through June
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or pasture. Some areas are wooded, and some are in weedy or brushy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Although flooding can occur, it does not normally occur during the growing season. Wetness caused by the seasonal high water table and flooding, especially on the lower parts of some flood plains, can delay planting and cause minor crop damage in some years. Careful management of included areas that are more frequently flooded is needed to prevent crop loss. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit.

Pasture.—This unit is well suited to pasture. Management that excludes livestock from the pasture during periods of flooding or wetness, proper stocking rates, and rotational grazing help to keep the pasture in good condition. The growth of legumes is restricted in included areas where prolonged flooding or wetness occurs. Weed control and applications of lime and fertilizer increase forage yields. Because of the need for good water quality, these applications should not occur during periods of flooding. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—Flooding is the main limitation on sites for dwellings. The unit is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The higher adjacent areas that are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit and should be investigated.

Septic tank absorption fields.—Flooding and the wetness caused by the seasonal high water table are the main limitations on sites for conventional septic tank absorption fields. Poor filtering and contamination of ground water and streams can occur during periods of flooding. Nearby areas that are not subject to flooding are better suited to conventional systems. State and local health codes may affect the design or prohibit the installation of conventional systems on this unit. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Flooding and the potential for frost action are the main limitations if this unit is used as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas. A better alternative, however, is to construct the roads and streets on nearby soils that are not subject to flooding. Strong floodwater currents could damage or wash out roadbeds.

The land capability subclass is 2w.

12B—Herkimer channery silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on alluvial fans. It occurs in areas where side streams that flow through areas dominated by dark, calcareous shale enter major valleys. Areas of this map unit are mainly oblong, irregularly shaped, conical, or fan shaped. They are as much as 404 acres in size but typically are less than 45 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, very dark grayish brown channery silt loam, 15 percent rock fragments

Subsoil

8 to 26 inches, dark grayish brown channery silt loam, 15 percent rock fragments

26 to 35 inches, dark grayish brown channery silt loam with common brownish yellow redoximorphic concentrations and a few light brownish gray redoximorphic depletions, 20 percent rock fragments

Substratum

35 to 40 inches, dark grayish brown channery silt loam with many brownish yellow redoximorphic concentrations and light brownish gray redoximorphic depletions, 20 percent rock fragments

40 to 72 inches, very dark grayish brown channery loam, 25 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small, narrow spots of well drained Hamlin, somewhat poorly drained Wakeville, and moderately well drained Otego soils in the lower areas and on flood plains. These soils have fewer rock fragments in the subsoil than the Herkimer soil.
- Somewhat excessively drained or well drained Chenango, Alton, and Howard soils on the slightly higher parts of the landscape. These soils have fewer shale fragments throughout and a higher content of sand and gravel in the substratum than the Herkimer soil.
- Somewhat poorly drained Fredon soils in a few small depressions and along some drainageways
- A few small areas where slopes are less than 3 percent
- Some areas of well drained Herkimer soils

Soil Properties

Herkimer soil

Permeability: Moderate throughout the mineral soil

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are in brushy and weedy fields or are wooded. A few areas are used for recreational or urban development. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. On the lower parts of the unit, rare flooding can delay planting and cause minor crop damage in some years. The flooding usually occurs along streams and during extended wet periods or under adverse weather conditions. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during periods of wetness or flooding can help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings with basements because of the seasonal high water table. Better suited soils in adjacent areas or in the higher areas of the unit should be considered as alternative sites. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness. In a few areas of the unit, few or no limitations affect the construction of dwellings.

Septic tank absorption fields.—In some areas wetness caused by the seasonal high water table and moderate permeability in the subsoil and substratum are the main limitations if this unit is used as a site for conventional septic tank absorption fields. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in a few areas of this unit. These regulations should be investigated before a sewage disposal system is installed on the unit. In a few areas of the unit, few or no limitations affect conventional septic tank absorption fields.

Local roads and streets.—In some areas the potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation in many areas.

The land capability subclass is 2w.

12C—Herkimer channery silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on alluvial fans. It occurs where side streams that flow through areas dominated by dark colored, calcareous shale enter major valleys. Areas of this map unit are mainly oblong, irregularly shaped, conical, or fan shaped. They range from 9 to 71 acres in size and typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, very dark grayish brown channery silt loam, 15 percent rock fragments

Subsoil

8 to 26 inches, dark grayish brown channery silt loam, 15 percent rock fragments

26 to 35 inches, dark grayish brown channery silt loam with common brownish yellow redoximorphic concentrations, 20 percent rock fragments

Substratum

35 to 40 inches, dark grayish brown channery silt loam with many brownish yellow redoximorphic concentrations and light brownish gray redoximorphic depletions, 20 percent rock fragments

40 to 72 inches, very dark grayish brown channery loam, 25 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Small, narrow areas of somewhat excessively drained or well drained Chenango, Alton, and Howard soils, which have fewer shale fragments throughout the profile and a higher content of sand and gravel in the substratum than the Herkimer soil
- A few areas of well drained Hamlin, somewhat poorly drained Wakeville, and moderately well drained Otego soils on flood plains. These soils have fewer rock fragments in the subsoil than the Herkimer soil.
- Somewhat poorly drained Fredon soils in a few small depressions and along some drainageways
- Some areas of well drained Herkimer soils

Soil Properties

Herkimer soil

Permeability: Moderate throughout the mineral soil

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are in brushy and weedy fields or are wooded. A few areas are used for recreational or urban development.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning

crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings with basements because of the seasonal high water table. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope and in some areas wetness caused by the seasonal high water table and moderate permeability in the subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing them on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3e.

13—Fluvaquents-Borosaprists complex

This unit consists of very deep, nearly level, very poorly drained soils on flood plains and basinlike depressions on till plains in the northern part of the county. The unit receives and stores surface runoff from the surrounding areas. Typically, Fluvaquents are on flood plains directly adjacent to stream channels. Borosaprists are in depressions on till plains and in marsh areas on flood plains. This unit consists of about 45 percent Fluvaquents, 35 percent Borosaprists, and 20 percent minor soils. The Fluvaquents and Borosaprists occur in such an intricate pattern that they were not separated in mapping. The unit is so variable within short distances that mapping individual soil series was not practical. Individual areas of the unit are long and narrow or are elongated ovals. They are as much as 243 acres in size but are generally less than 50 acres. Slopes range from 0 to 2 percent.

The sequence, depth, and composition of the layers of the Fluvaquents are highly variable, but an idealized pedon is as follows—

Surface layer

0 to 7 inches, very dark gray silt loam with common dark reddish brown redoximorphic concentrations

Substratum

7 to 14 inches, dark greenish gray silty clay loam with common strong brown redoximorphic concentrations

14 to 45 inches, dark gray silt loam with a few dark yellowish brown redoximorphic concentrations, firm, slightly effervescent
45 to 72 inches, dark gray silty clay loam, firm, slightly effervescent

The sequence, depth, and composition of the layers of the Borosaprists are highly variable, but an idealized pedon is as follows—

Surface tier
0 to 10 inches, black (broken face and rubbed) muck (sapric material), about 10 percent fiber undisturbed and 5 percent fiber rubbed
10 to 12 inches, black (broken face and rubbed) muck (sapric material), about 25 percent fiber undisturbed and 5 percent fiber rubbed

Subsurface tier
12 to 20 inches, black (broken face and rubbed) muck (sapric material), about 25 percent fiber undisturbed and 5 percent fiber rubbed
20 to 36 inches, dark reddish brown (broken face and rubbed) muck (sapric material), about 40 percent fiber undisturbed and 8 percent fiber rubbed

Bottom tier
36 to 51 inches, dark reddish brown (broken face and rubbed) muck (sapric material), about 40 percent fiber undisturbed and 8 percent fiber rubbed

Mineral substratum
51 to 72 inches, strong brown loamy sand

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- A few small areas of somewhat poorly drained Westbury and poorly drained Dannemora soils on the Tug Hill Plateau, in the northwestern part of the county
- Somewhat poorly drained Adirondack and Naumburg soils in the Adirondack Mountains, in the northeastern part of the county. These soils are associated with glacial till deposits in the nearby uplands.
- Excessively drained Colton soils, which formed in glacial outwash on ridges and knolls along the major stream valleys
- Variably drained Udifluvents on flood plains
- Very poorly drained Wonsqueak, Greenwood, and Dawson soils, which are in depressions and formed in organic deposits

Soil Properties

Fluvaquents
Permeability: Generally ranging from moderately slow through rapid throughout the mineral soil
Available water capacity (40-inch profile): Very low to high
Soil reaction: Very strongly acid through neutral in the surface layer and very strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: Variable but typically 0 to 1.5 feet from October through June
Flooding: Frequent, brief to long, October through June
Depth to bedrock: More than 60 inches

Borosaprists
Permeability: Moderately slow through moderately rapid
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid through slightly acid in the organic part and very strongly acid through moderately alkaline in the mineral part

Seasonal high water table: 1.0 foot above to 1.0 foot below the surface throughout most of the year
Flooding: None, but the soils are affected by ponding of stagnant water during the period September through June.
Depth to bedrock: More than 40 inches

The properties and characteristics of this unit vary from place to place. In some areas the soil properties are similar to those of the adjacent soils.

Use and Management

Most areas of this map unit support native grasses, brush, or trees. A few small areas are used as pasture when they are accessible.

Cropland.—This unit is generally not suited to cultivated crops because of prolonged periods of wetness, variable soil properties, and in some areas frequent flooding. In many areas accessibility may be difficult.

Pasture.—This unit is generally not suited to pasture because of prolonged periods of wetness during the growing season and in some areas frequent flooding and potential stream scouring. Flooding is likely to restrict grazing. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Management of livestock during periods of flooding can decrease the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks. In many areas accessibility may be difficult.

Dwellings.—This unit is very limited as a site for dwellings because of prolonged periods of wetness caused by the seasonal high water table and in some areas because of frequent flooding. The adjacent soils that are higher on the landscape and above the flood plain may be better sites. Onsite investigation is necessary to evaluate individual areas. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of prolonged periods of wetness caused by the seasonal high water table and in some areas because of frequent flooding or ponding. Poor filtering of effluent and contamination of the water supply can occur during periods of flooding. The adjacent soils that are better drained and are not subject to flooding are better suited to conventional systems. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of prolonged periods of wetness, the potential for frost action, and in some areas frequent flooding or ponding. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in a few areas. A better alternative, however, is to construct the roads and streets on nearby soils that are not subject to flooding. Strong floodwater currents are likely to damage or wash out roadbeds. In some areas wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit.

The land capability subclass is 5w.

20—Pits, sand and gravel

This unit consists of areas from which gravel or sand has been excavated for use as construction material, roadfill, or winter road sand. Most of these excavations are in deposits of glacial outwash or terrace deposits. A few areas occur in loose, sandy glacial till. The pits are generally 3 to 70 feet deep and have steep sides and a relatively level bottom. Areas of this map unit are generally irregular in shape, depending on the soil deposit and on land ownership boundaries. They are as much as 80 acres in size but typically are less than 15 acres

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Small areas of undisturbed soils next to the pits, including excessively drained Adams, Chenango, Howard, and Alton soils
- A few small areas where bedrock has been exposed
- A number of areas where small pools of water are on the pit floor, particularly in spring
- Pits that have been reclaimed by grading or by additions of salvaged topsoil
- Areas where the upper part of the soil had been excavated and the original subsurface layer is now exposed as the surface layer
- A few areas that consist of older sandy or gravelly overburden or spoil piles
- Areas along the New York State Thruway and the Erie Barge Canal
- Some areas at an elevation of more than 1,000 feet

Properties of Pits, Sand and Gravel

Permeability varies but generally is rapid or very rapid. Most areas are excessively drained or somewhat excessively drained. In small level areas or depressions, however, the water table is at or near the surface part of the year. Available water capacity is typically very low, and conditions are generally droughty. Reaction dominantly ranges from extremely acid through neutral in the upper part of the material now exposed at the surface.

Use and Management

This unit is poorly suited to cultivation, pasture, woodland, and urban uses. Generally, the topsoil has been removed. Because of droughtiness in the subsoil or substratum, the material is unsuitable for root development and establishment of vegetation. Slopes are commonly steep and unstable. Some areas have little vegetative cover, whereas older abandoned areas support grasses, shrubs, and some trees. The pits that have been abandoned more recently are commonly reclaimed and revegetated with grasses or trees.

Gravel and sand pits vary in their suitability for community development and recreation. Onsite investigation is needed to determine the suitability of reclaimed pits for alternative uses.

No land capability classification is assigned.

21—Udorthents, refuse substratum

This unit consists of nearly level to steep, moderately well drained to somewhat excessively drained soils in areas that formerly were sanitary landfills. These areas consist of sandy, loamy, or silty soil material that has been reworked by earth-moving and grading equipment. In most areas it is in the Mohawk River Valley between Utica and Rome. Some areas have been smoothed or leveled.

Some areas in this unit have a cap of fine textured or moderately fine textured soil fill material added above the refuse layers to reduce the rate of water infiltration and the water content in the substratum. The cap material varies in thickness and texture, but it commonly is clay, silty clay, or silty clay loam about 2 feet thick. It is used to seal the underlying layers from rainfall or surface waters that can cause leaching of the refuse material. The landfill areas typically consist of layers of trash and refuse that had been covered periodically, even daily in some areas, by thin layers of loamy material. As a result, the refuse commonly is partly covered or mixed with the soil fill material. The side slopes of the landfills commonly are steep, whereas the tops are nearly level or gently sloping. In most areas the original surface layer and subsoil have been removed from the soils that make up the unit. Areas are mostly rectangular or irregular in shape. They are as much as 114 acres in size but generally are less than 45 acres. Slopes range from 0 to 35 percent and generally are less than 10 percent. They are smooth and convex.

The closed landfills that have been leveled and capped with fine textured material commonly are vegetated with various grasses. Many of these areas are periodically mowed. Many of the older unclaimed or abandoned landfills are vegetated with various grasses, weeds, shrubs, and trees. A few areas do not have a vegetative cover.

Commonly, the surface layer is about 6 inches of loamy “topsoil” material. Some of the more recently closed landfill areas have a barrier protection layer about 24 inches thick. A geomembrane is at the base of the protection layer. Below the protection layer and geomembrane is 18 to 24 inches of silty clay, clay, silty clay loam, or clay loam. In some areas this material overlies mixed layers of loamy and sandy fill material, commonly 2 or 3 feet thick. In other areas, it overlies a gas-venting layer that is used to collect and control the gases generated by the decomposing wastes. The substratum consists of stratified or alternating layers of soil material approximately 6 to 12 inches thick, and refuse and garbage, which range in thickness from 2 to more than 20 feet. The content of rock fragments, mainly pebbles and channers, ranges from 0 to 60 percent, by volume. A few areas were formerly sand and gravel pits before being used as landfills

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 6 acres in size. They are as follows—

- Areas where the refuse is near the surface. These areas may have been filled with material, including garbage; tires; coal ash and cinders; construction and demolition material, such as wood, bricks, blocks, and concrete chunks; and tree stumps or branches.
- Some areas that have sand in the lower part of the substratum, below the refuse material
- A few small areas of Udorthents, smoothed, which do not have refuse in the substratum

Soil Properties

Udorthents

This unit varies greatly in composition. Therefore, soil properties, such as permeability, available water capacity, and soil reaction, vary from area to area. Adjacent map unit delineations commonly provide clues to the soil properties of the unit or at least to some of the properties the soil had before it was disturbed.

Permeability: Variable but generally slow in the surface layer and very slow through rapid in the rest of the profile

Available water capacity (40-inch profile): Variable but typically very low through moderate

Soil reaction: Very strongly acid through moderately alkaline throughout the profile
Depth to a seasonal water table: Variable, depending on the elevation and the level of the water in adjacent soils
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

The suitability of this unit for rural and agricultural uses varies greatly. Onsite evaluation is needed for each individual site. Some reclaimed areas may have some potential for future use as parks or parking lots. The unit is very limited as a site for most urban uses, however, because of the refuse substratum. In some areas the ground water is already polluted because of the composition of the refuse and the permeable substratum. Construction activities could accelerate the pollution of ground water in some areas.

This unit is not assigned a land capability classification.

22—Udorthents, smoothed

This unit consists of very deep, nearly level to strongly sloping, moderately well drained to somewhat excessively drained soils. Most areas are the result of cutting and filling during canal construction, gravel mining, or other construction activities. The unit occurs mainly in and adjacent to urban areas, highways, and borrow areas. Most areas have been smoothed or leveled in an attempt to restore a more natural appearance. The soil material in this unit commonly is derived from old alluvium, glacial till, and glacial outwash. In a few areas it is derived from bedrock. Typically, the original surface layer and subsoil have been removed from the soils that make up the unit. In some areas of gravel pits, the topsoil had been removed and stockpiled. After excavations for gravel were completed, the areas were leveled and covered with topsoil or loamy material. Slopes generally are 0 to 3 percent but range to 15 percent.

This map unit is in scattered areas throughout the county. The largest areas occur in the Mohawk River Valley and along the Barge (or Erie) Canal from Utica to Oneida Lake. The unit consists of soil material in alternating layers ranging from sand to silt loam. Areas of this map unit are commonly elongated, long and narrow, or rectangular in shape. They are as much as 865 acres in size but generally are less than 130 acres.

The texture and drainage vary considerably from one area to another. The unit is quite variable, and the fill material commonly is more than 20 inches deep over the original soil and ranges from silt loam to loamy sand. In a typical profile, the surface layer is brown or grayish brown gravelly loam or loamy sand 4 to 8 inches thick. The material below the surface layer, to a depth of 72 inches or more, ranges from dark yellowish brown or yellowish brown to light olive brown. It is commonly silt loam, loam, or sandy loam in the fine-earth fraction, but it ranges from very gravelly loamy sand to very gravelly silty clay

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Small areas of Udorthents that have a wet substratum. These soils are in filled areas, commonly adjacent to or on flood plains. They were formerly somewhat poorly drained to very poorly drained.
- Undisturbed areas of Wayland, Wakeville, Hamlin, Otego, Alton, Chenango,

Canandaigua, and Lamson soils. These soils are in small areas adjacent to this unit and in areas where the fill is very thin.
- Some areas of soils that have stratified sand and gravel in the substratum
- Some areas where there is no topsoil and the substratum has numerous cobblestones
- Rock outcrop, mainly in areas where cutting has exposed the bedrock
- Urban land, mainly near the cities of Utica and Rome
- Some low-lying areas that are along streams and are subject to flooding

Soil Properties

Udorthents

Permeability: Generally ranging from moderate through rapid throughout the profile
Available water capacity (40-inch profile): Variable but typically very low through moderate
Soil reaction: Generally ranging from very strongly acid through neutral in the upper part and strongly acid through slightly alkaline in the substratum
Depth to a seasonal water table: Variable, depending on the elevation and the level of the water in adjacent soils
Flooding: None
Depth to bedrock: More than 60 inches

The properties and characteristics of this unit vary greatly from place to place. In many areas the properties are similar to those of the adjacent soils.

Use and Management

Most areas of this map unit are idle and support weeds or brush. Some areas are used as woodland. A few areas are used for row crops and legumes in support of dairy operations. Unless intensive management is applied, these soils are not suited to cultivated crops, hay, or pasture.

The suitability of this unit for rural and agricultural uses varies greatly area to area. It ranges from poorly suited to well suited. In most areas efforts must be made to increase the content of organic matter and build up the topsoil for agricultural uses. In some areas rock fragments can limit tillage and can cause machinery to wear at a more rapid rate. Sufficient applications of lime and fertilizer are required for most crops. Measures that increase the content of organic matter and the available water capacity include growing cover crops and incorporating crop residue into the soils. Onsite evaluation is needed for each individual site. Some areas have potential for use as pasture or hayland if large amounts of organic matter and fertilizer are applied before seeding. Droughtiness may be a problem during extended dry periods in some areas used for agricultural purposes.

Some areas of this map unit may have potential for urban uses, such as the construction of commercial buildings, dwellings, roads, parks, or parking lots. The properties and characteristics of this unit are so variable that onsite investigation is needed to determine the suitability and limitations affecting proposed uses of individual sites.

This unit is not assigned a land capability classification.

23—Urban land

This unit consists of areas where at least 50 percent of the land surface is covered with impervious material or buildings. The impervious areas include parking lots, shopping centers, industrial parks, highways, and institutional sites. Much of the unit occurs in the business centers of Utica and Rome. One large area occurs in the vicinity of the former Griffiss Air Force Base. Most areas are nearly level and gently sloping. Only small areas are more sloping. Most areas are linear, rectangular, or irregular in shape. The linear areas are mainly along highways. The areas range from 10 to 1,375 acres in size but typically are less than 175 acres.

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of Honeoye, Lima, Alton, Castile, Windsor, Canandaigua, and other soils that have not been appreciably altered. These soils are between buildings and other structures. They make up 5 to 20 percent of the mapped areas.
- Udorthents in disturbed areas that are not covered by buildings or other structures

Use and Management

Reclamation is required if this unit is to be converted from its current use. Inclusions that are not covered by structures are suitable for uses that are compatible with an urban environment.

This unit is not assigned a land capability classification.

24A—Howard gravelly loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat excessively drained soil is on broad glacial outwash plains, eskers, kames, and terraces in the southern and central parts of the county. It formed in water-sorted gravelly outwash. In most areas it is in the Sauquoit Valley from Bridgewater to the Utica area and in the Oriskany Creek Valley from the village of Oriskany to the towns of Oriskany and Whitesboro. A smaller acreage of the unit occurs in the town of Verona. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 502 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil

11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments

20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments

29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum

44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent

75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have fewer rock fragments than the Howard soil
- Some areas of well drained soils and a few areas of excessively drained soils
- On the same landforms as the Howard soil, moderately well drained Phelps, somewhat poorly drained Fredon, and very poorly drained Halsey soils in small depressions and along drainageways

- Along the edge of glacial till plains, small areas of moderately well drained Conesus and well drained Honeoye and Pittsfield soils
- Some areas where slopes are more than 3 percent

Soil Properties

Howard soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used for vegetable farming. A few areas are wooded or are in brushy and weedy fields. A few of the cultivated areas are irrigated. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season in some areas. The droughtiness may limit the growth of cultivated crops; moisture stress in plants is common during droughty periods. Irrigation can minimize the droughtiness. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—In areas used for conventional septic tank absorption fields, seepage and contamination of the ground water and of nearby water bodies can occur because of the very rapid permeability in the substratum. The adjacent soils that have a better filtering capacity should be considered in some areas. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

24B—Howard gravelly loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat excessively drained soil is on broad glacial outwash plains, eskers, kames, and terraces in the southern and central parts of the county. It formed in water-sorted gravelly outwash. In most areas it is in the Sauquoit Valley from Bridgewater to the Utica area. A smaller acreage of the unit occurs in the Oriskany Creek Valley and in the town of Verona. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 265 acres in size but typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil
11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments
20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments
29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum
44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent
75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Soils that have fewer rock fragments than the Howard soil
- Some areas of well drained soils and a few areas of excessively drained soils
- On the same landforms as the Howard soil, moderately well drained Phelps, somewhat poorly drained Fredon, and very poorly drained Halsey soils in small depressions and along drainageways
- Along the edge of glacial till plains, small areas of moderately well drained Conesus and well drained Honeoye and Pittsfield soils
- Some areas where slopes are more than 8 percent

Soil Properties

Howard soil
Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. A few areas are used for vegetable farming. Some areas are used as woodland or are in brushy and weedy fields. A few of the cultivated areas are irrigated. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season in some areas. The droughtiness may limit the growth of cultivated crops; moisture stress in plants is common during droughty periods. Irrigation can minimize the droughtiness. Erosion is a hazard in the steeper areas and on long slopes. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Conservation tillage and contour stripcropping reduce the hazard of erosion in the steeper areas.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—In areas used for conventional septic tank absorption fields, seepage and contamination of the ground water and of nearby water bodies can occur because of the very rapid permeability in the substratum. The adjacent soils that have a better filtering capacity should be considered in some areas. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

24C—Howard gravelly loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat excessively drained soil is on broad glacial outwash plains, eskers, kames, and terraces in the southern part of the county. It formed in water-sorted gravelly outwash. In most areas it is in the Sauquoit Valley from Bridgewater to the Utica area. A smaller acreage of the unit occurs in the Oriskany Creek Valley near the village of Oriskany. Areas of this map unit are mainly elongated, elliptical, or irregular in shape. They are as much as 121 acres in size but typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil
11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments
20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments
29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum

44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent

75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have fewer rock fragments than the Howard soil
- Some areas of well drained soils and a few areas of excessively drained soils
- On the same landforms as the Howard soil, moderately well drained Phelps, somewhat poorly drained Fredon, and very poorly drained Halsey soils in small depressions and along drainageways
- Along the edge of glacial till plains, small areas of well drained Honeoye and Pittsfield and moderately well drained Conesus soils
- Some areas where slopes are more than 15 percent

Soil Properties

Howard soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum

Available water capacity (40-inch profile): Moderate

Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture. Some areas are used for cultivated crops or hay. A few areas are used as woodland or are in brushy and weedy fields.

Cropland.—This unit is only moderately suited to most of the crops commonly grown in the county because of strong slopes and the hazard of erosion. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season in some areas. The droughtiness may limit the growth of cultivated crops; moisture stress in plants is common during droughty periods. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. Land shaping and designing the dwellings so that they conform to the natural slope of the land minimize this limitation. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope and seepage are the main limitations on sites for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur because of the very rapid permeability in the substratum. Land shaping or grading can make the filter field more level, and the distribution lines should be installed across the slope or on the contour. In some areas specially designed systems are needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

25—Pits, quarry

This unit consists of areas where limestone, siltstone, shale, or sandstone was quarried from original bedrock formations and was used mainly for construction purposes, on road surfaces, or as aggregate for cement. The pits are 20 to 70 feet deep and have steep sides and a relatively level bottom. Areas generally are irregular in shape, depending on the nature of the bedrock strata and on land ownership boundaries. They are as much as 110 acres in size but are generally less than 15 acres.

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Areas with stones and boulders or with piles of soil material scattered over the pit floor
- Some areas where ponds are on the floor of the quarries and a few areas that are filled with water
- Areas that have not yet been excavated but border areas that have been opened. Farmington, Galway, Arnot, Greene, Lairdsville, Manlius, and Ischua soils are in these areas.
- Spots of a very deep soils, such as Honeoye, Cazenovia, Ovid, and Windsor soils

Use and Management

This unit is generally unsuited to cultivated crops and pasture because of the shallow depth to bedrock and in some areas quarry rubble and a very low available water capacity. Establishment of vegetation is difficult because soil material has generally been removed. The generally steep sides of the quarries limit agricultural uses. The older abandoned pits may support some drought-tolerant grasses and shrubs.

Community development and other nonfarm uses are severely limited by the shallowness to bedrock; short, steep slopes; and the quarry rock debris. Onsite evaluation is needed for each individual site.

No land capability classification is assigned to this unit.

27A—Nicholville silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on lake plains, uplands, and terraces in major stream valleys. It formed in deposits with a high content of silt and very fine sand. Areas of this map unit are mainly oblong or irregular in shape. They are as much as 120 acres in size but generally are less than 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, dark brown silt loam, 5 percent rock fragments

Subsoil
4 to 10 inches, dark brown silt loam, 5 percent rock fragments
10 to 20 inches, brown silt loam, 10 percent rock fragments
20 to 22 inches, dark yellowish brown silt loam with common brownish yellow and a few yellowish brown redoximorphic concentrations, 10 percent rock fragments
22 to 36 inches, light brown silt loam with common light gray and white redoximorphic depletions and common yellowish brown and brownish yellow redoximorphic concentrations, 10 percent rock fragments

Substratum
36 to 72 inches, grayish brown very fine sandy loam with many dark grayish brown redoximorphic depletions and many dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Roundabout soils on the lower parts of the landscape and in depressions
- Well drained Salmon soils in elevated areas
- Some areas of somewhat excessively drained, sandy Adams and moderately well drained, sandy Croghan soils in the northeastern part of the county
- A few areas where slopes are more than 3 percent

Soil Properties

Nicholville soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, pasture, or hay. Some areas are wooded. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Cover crops, crop rotations, conservation tillage, and the return of crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. In some areas wetness delays grazing early in spring. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage and generally increases the runoff rate. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Wetness caused by the seasonal high water table is the main limitation affecting the use of this unit as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of the seasonal high water table and the moderate permeability in the subsoil and substratum. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. In some areas the absorption field should be installed on the higher parts of the unit.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

27B—Nicholville silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on lake plains, uplands, and terraces in major stream valleys. It formed in deposits with a high content of silt and very fine sand. Areas of this unit are mainly elongated or irregular in shape. They are as much as 61 acres in size but generally are less than 15 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, dark brown silt loam, 5 percent rock fragments

Subsoil
4 to 10 inches, dark brown silt loam, 5 percent rock fragments
10 to 20 inches, brown silt loam, 10 percent rock fragments
20 to 22 inches, dark yellowish brown silt loam with common brownish yellow and a few yellowish brown redoximorphic concentrations, 10 percent rock fragments
22 to 36 inches, light brown silt loam with common light gray and white redoximorphic depletions and common yellowish brown and brownish yellow redoximorphic concentrations, 10 percent rock fragments

Substratum
36 to 72 inches, grayish brown very fine sandy loam with many dark grayish brown redoximorphic depletions and many dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Roundabout soils on the lower parts of the landscape and in depressions
- Well drained Salmon soils in elevated areas
- Some areas of somewhat excessively drained, sandy Adams and moderately well drained, sandy Croghan soils in the northeastern part of the county
- A few areas where slopes are more than 8 percent

Soil Properties

Nicholville soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, pasture, or hay. Some areas are wooded. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Erosion is a hazard in the steeper areas and on long slopes. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth. Conservation tillage and contour stripcropping reduce the hazard of erosion in the steeper areas.

Pasture.—This unit is well suited to pasture. In some areas wetness delays grazing early in spring. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage and generally increases the runoff rate. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Wetness caused by the seasonal high water table is the main limitation affecting the use of this unit as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of the seasonal high water table and the moderate permeability in the subsoil and substratum. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. In some areas the absorption field should be installed on the higher parts of the unit.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

28A—Phelps silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on low benches and terraces. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 410 acres in size but typically are less than 150 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 10 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 10 percent rock fragments

Subsoil
10 to 15 inches, brown gravelly silt loam with a few dark yellowish brown redoximorphic concentrations, 20 percent rock fragments
15 to 25 inches, brown gravelly silt loam with a few yellowish red and brownish yellow redoximorphic concentrations and a few brown redoximorphic depletions, 30 percent rock fragments

Substratum
25 to 72 inches, dark brown very gravelly loamy sand, 45 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—
- Somewhat excessively drained Howard soils on the slightly higher parts of the landscape
- Small areas of somewhat poorly drained Fredon and very poorly drained Halsey soils in small depressions and along drainageways

Soil Properties

Phelps soil
Permeability: Moderate in the surface layer, subsurface layer, and subsoil and moderately rapid or rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Moderately acid through neutral in surface layer, subsurface layer, and subsoil and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in the upper part of the soil may interfere with certain tillage operations in some areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Overgrazing during extended dry periods can decrease the quantity and quality the forage. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, weed control, and yearly mowing can increase forage yields.

Dwellings.—Wetness caused by the seasonal high water is the main limitation on sites for dwellings with basements. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of the seasonal high water table and in some areas a poor filtering capacity in the substratum. The poor filtering capacity may result in the contamination of ground water. Included and adjacent soils that are deeper to the water table or have a better filtering capacity should be considered.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

28B—Phelps silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on low benches and terraces. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oval, elongated, or irregular in shape. They are as much as 60 acres in size but typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 10 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 10 percent rock fragments

Subsoil
10 to 15 inches, brown gravelly silt loam with a few dark yellowish brown redoximorphic concentrations, 20 percent rock fragments
15 to 25 inches, brown gravelly silt loam with a few yellowish red and brownish yellow redoximorphic concentrations and a few brown redoximorphic depletions, 30 percent rock fragments

Substratum

25 to 72 inches, dark brown very gravelly loamy sand, 45 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Somewhat excessively drained Howard soils on the slightly higher parts of the landscape
- Small areas of somewhat poorly drained Fredon and very poorly drained Halsey soils in small depressions and along drainageways

Soil Properties

Phelps soil

Permeability: Moderate in the surface layer, subsurface layer, and subsoil and moderately rapid or rapid in the substratum

Available water capacity (40-inch profile): Moderate

Soil reaction: Moderately acid through neutral in surface layer, subsurface layer, and subsoil and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in the upper part of the soil may interfere with certain tillage operations in some areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Overgrazing during extended dry periods can decrease the quantity and quality of forage. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, weed control, and yearly mowing can increase forage yields.

Dwellings.—Wetness caused by the seasonal high water is the main limitation on sites for dwellings with basements. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of the seasonal high water table and in some areas a poor filtering capacity in the substratum. The poor filtering capacity may result in the contamination of ground water. Included and adjacent soils that are deeper to the water table or have a better filtering capacity should be considered.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

30—Fredon gravelly silt loam

This very deep, nearly level soil is in slightly concave areas and depressions on low benches and terraces along valley bottoms. It generally is somewhat poorly drained but in some areas is poorly drained. It formed in water-sorted material containing varying amounts of pebbles, cobbles, and channers. Areas of this map unit are mainly oblong, long and narrow, or irregular in shape. They are as much as 220 acres in size but typically are less than 55 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly silt loam with common pale brown redoximorphic concentrations, 15 percent rock fragments

Subsoil

7 to 15 inches, brown gravelly silt loam with many yellowish brown redoximorphic concentrations, 15 percent rock fragments

15 to 24 inches, brown gravelly loam with many yellowish brown redoximorphic concentrations, 20 percent rock fragments

Substratum

24 to 72 inches, dark gray very gravelly loamy sand with many strong brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Moderately well drained Castile soils on the higher parts of the landscape
- Very poorly drained Halsey soils in small depressions and along drainageways.
- In the town of Trenton, a few spots of Fredon soils at an elevation of more than 1,000 feet

Soil Properties

Fredon soil

Permeability: Moderate in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and moderately acid through moderate alkaline in the substratum

Depth to a seasonal high water table: Near the surface to 1.5 feet below the surface from October through June

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay and pasture. Some areas are used as woodland or are in brushy or weedy fields. A few areas are drained and used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to prevent excessive surface compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Wetness caused by the seasonal high water table is the main limitation affecting the use of this unit as a site for dwellings. Installing drains around footings and foundations and adequately sealing the foundation walls can reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Poor filtering and contamination of the ground water supply may occur because of this limitation. Better drained soils should be considered when sites for conventional systems are selected. In a few areas installing a drainage system and establishing diversions that intercept runoff upslope from the absorption field reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas. In some of the wettest areas, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before roads and streets are constructed on this unit. The better drained adjacent soils should be considered in the selection of sites for roads and streets.

Land capability subclass: Somewhat poorly drained Fredon soil—3w; poorly drained Fredon soil—4w.

31—Halsey gravelly loam

This very deep, nearly level, very poorly drained soil is in depressions and on terraces along valley bottoms. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 134 acres in size but typically are less than 30 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown gravelly loam, 20 percent rock fragments

Subsoil

7 to 21 inches, dark grayish brown gravelly loam with a few dark gray redoximorphic depletions and many yellowish brown and common strong brown redoximorphic concentrations, 30 percent rock fragments

Substratum

21 to 45 inches, dark grayish brown gravelly loamy sand, 20 percent rock fragments

45 to 72 inches, dark grayish brown very gravelly sandy loam, 40 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Somewhat poorly drained Fredon soils
- On some flood plains, poorly drained and very poorly drained soils that are similar to the Halsey soil
- Moderately well drained Castile and Phelps soils on the higher parts of the landscape
- Very poorly drained Palms soils in some small bogs and the deeper depressions

Soil Properties

Halsey soil

Permeability: Moderate in the surface layer, moderate or moderately rapid in the subsoil, and rapid in the substratum

Available water capacity (40-inch profile): Low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and slightly acid through moderate alkaline in the substratum

Depth to a seasonal high water table: At the surface to 0.5 foot below the surface from September through June

Flooding: Rare, brief, November through May

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are idle or are used as woodland. Some areas are used for cultivated crops or pasture.

Cropland.—This unit is poorly suited to cultivated crops because of prolonged periods of wetness. Wetness limits the use of machinery and access to the fields. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered. The best suited plants are those that are water tolerant.

Pasture.—This unit is poorly suited to pasture because of wetness. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and mechanical weed and brush control can help to keep the pasture in good condition.

Dwellings.—This unit is very limited as a site for dwellings because of prolonged periods of wetness caused by the seasonal high water table and because of rare flooding of brief duration. The higher adjacent soils that are better drained and are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of prolonged periods of wetness caused by the seasonal high water table. Better suited areas should be selected because extensive alterations would be required to overcome this limitation. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the seasonal high water table and the potential for frost action. Additions of considerable amounts of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit. A better alternative would be to construct local roads and streets on the better drained nearby soils.

The land capability subclass is 5w.

33A—Alton-Urban land complex, 0 to 3 percent slopes

This unit occurs as areas of a very deep, nearly level, somewhat excessively drained Alton soil and areas of Urban land on broad outwash plains, mostly in the city of Rome and to a lesser extent in the city of Utica. Areas of this map unit are mainly elongated or irregular in shape. They range from 25 to 1,970 acres in size and typically are less than 360 acres.

A typical area of this complex is about 40 percent Alton soil, 30 percent Urban land, and 30 percent minor soils. The Alton soil and Urban land occur together in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Alton soil are as follows—

Surface layer

0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil

9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments

24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments

40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum

58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Typically, Urban land is covered by impervious material, such as concrete, asphalt, or buildings, that overlie soil material, such as the Alton soil

Included Areas

Included areas make up about 30 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Small areas of moderately well drained Castile and somewhat poorly drained Fredon soils
- Udorthents in areas where the surface has been disturbed but is not covered by impervious material
- Small areas where slopes are more than 3 percent

Soil Properties

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for urban or community development. Small parcels of land have not been developed or are vacant lots or weedy areas.

Cropland.—Because it is highly urbanized, this unit is not suited to farming. Open areas generally occur as narrow plots between developed areas. Some of the open areas have potential for small gardens.

Pasture.—Because it is highly urbanized, this unit is not suited to pasture.

Dwellings.—Commonly, Urban land is already used as a site for dwellings. Areas already having buildings and paved portions of the unit require significant modifications to make them suitable for new dwellings. The Alton soil has few or no limitations as a site for dwellings.

Septic tank absorption fields.—Urban land is generally unsuited to conventional septic tank absorption fields. The rapid permeability in the substratum of the Alton soil is a limitation affecting the use of this unit as a site for conventional septic tank absorption fields in some areas. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In a few areas specially designed systems may be needed to prevent the contamination of ground water. Commonly, dwellings in areas of this unit are connected to municipal waste disposal systems. Onsite investigation is necessary to determine the suitability of each area for this purpose.

Local roads and streets.—Some areas of this unit already have paved roads and streets, which, along with existing buildings, greatly limit the use of the unit as a site for new local roads and streets. Significant modifications would be needed. Some open areas, especially areas of the Alton soil, are better suited. The Alton soil is somewhat limited because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation. Onsite investigation is necessary to determine the suitability of each area for local roads and streets.

This unit has not been assigned a land capability classification.

33B—Alton-Urban land complex, 3 to 8 percent slopes

This unit occurs as areas of a very deep, gently sloping, somewhat excessively drained Alton soil and areas of Urban land on broad outwash plains, mostly in the city of Utica and to a lesser extent in the city of Rome. Areas of this map unit are mainly rectangular, elongated, or irregular in shape. They range from 50 to 256 acres in size and typically are less than 150 acres.

A typical area of this complex is about 40 percent Alton soil, 30 percent Urban land, and 30 percent minor soils. The Alton soil and Urban land occur together in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Alton soil are as follows—

Surface layer

0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil

9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments

24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments

40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum

58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Typically, Urban land is covered with impervious material, such as concrete, asphalt, or buildings, that overlie soil material, such as the Alton soil

Included Areas

Included areas make up about 30 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Small areas of moderately well drained Castile and somewhat poorly drained Fredon soils
- Udorthents in areas where the surface has been disturbed but is not covered by impervious materials
- Small areas where slopes are more than 8 percent

Soil Properties

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for urban or community development. Small parcels of land have not been developed or are vacant lots or weedy areas.

Cropland.—Because it is highly urbanized, this unit is not suited to farming. Open areas generally occur as narrow plots between developed areas. Some of the open areas have potential for small gardens.

Pasture.—Because it is highly urbanized, this unit is not suited to pasture.

Dwellings.—Commonly, Urban land is already used as a site for dwellings. Areas already having buildings and paved portions of the unit require significant modifications to make them suitable for new dwellings. The Alton soil has few or no limitations as a site for dwellings.

Septic tank absorption fields.—Urban land is generally unsuited to conventional septic tank absorption fields. The rapid permeability in the substratum of the Alton soil is a limitation affecting the use of this unit as a site for conventional septic tank absorption fields in some areas. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In a few areas specially designed systems may be needed to prevent the contamination of ground water. Commonly, dwellings in areas of this unit are connected to municipal waste disposal systems. Onsite investigation is necessary to determine the suitability of each area for this purpose.

Local roads and streets.—Some areas of this unit already have paved roads and streets, which, along with existing buildings, greatly limit the use of the unit as a site for new local roads and streets. Significant modifications would be needed. Some open areas, especially areas of the Alton soil, are better suited. The Alton soil is somewhat limited because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation. Onsite investigation is necessary to determine the suitability of each area for local roads and streets.

This unit has not been assigned a land capability classification.

34D—Howard and Alton gravelly loams, 15 to 25 percent slopes

This unit consists of very deep, moderately steep soils that are dominantly somewhat excessively drained but in some areas are well drained. These soils are on the side slopes of valleys and on glacial outwash terraces, eskers, moraines, and kames. They formed in water-sorted gravelly outwash. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 209 acres in size but typically are less than 60 acres. Some areas consist mainly of Howard soil, and other areas consist mainly of Alton soil. The Howard and Alton soils are mapped together because they have similar use and management requirements. The unit is about 60 percent Howard soil, 30 percent Alton soil, and 10 percent other soils.

The typical sequence, depth, and composition of the layers of the Howard soil are as follows—

Surface layer

0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil

11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments

20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments

29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum

44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent

75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

The typical sequence, depth, and composition of the layers of the Alton soil are as follows

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly sandy loam, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Soils that have fewer rock fragments than the Howard and Alton soils
- Small areas of moderately well drained Phelps, somewhat poorly drained Fredon, and very poorly drained Halsey soils in small depressions and along drainageways
- Small areas where slopes are more than 25 percent

Soil Properties

Howard soil
Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Alton soil
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches
Index surface runoff: Low through high

Use and Management

Most areas of this map unit are used as woodland. Some areas are used as pasture or are in brushy or weedy fields. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Excessive slope limits the safe operation of farm machinery. Droughtiness may be a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Minimum tillage helps to control erosion during pasture renovation. Rotational grazing, proper stocking rates, weed control, yearly mowing, applications of fertilizer, and in some areas applications of lime help to maintain the quantity and quality of forage.

Dwellings.—Excessive slope is the main limitation affecting the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Excessive slope and in some areas the poor filtering capacity of these soils are the main limitations on sites for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur because of rapid or very rapid permeability in the substratum. The adjacent soils that are less sloping and have a better filtering capacity are better suited to conventional systems. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas because of excessive slope and rapid or very rapid permeability in the substratum. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

34E—Howard and Alton gravelly loams, 25 to 45 percent slopes

This unit consists of very deep, steep and very steep, somewhat excessively drained soils on the side slopes of valleys and on glacial outwash plains, eskers, and kames. They formed in water-sorted gravelly outwash. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 560 acres in size but typically are less than 100 acres. Some areas consist mainly of Howard soil, and other areas consist mainly of Alton soil. The Howard and Alton soils are mapped together because they have similar use and management requirements. The unit is about 60 percent Howard soil, 30 percent Alton soil, and 10 percent other soils.

The typical sequence, depth, and composition of the layers of the Howard soil are as follows—

Surface layer

0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil

11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments
20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments
29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum

44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent
75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

The typical sequence, depth, and composition of the layers of the Alton soil are as follows

Surface layer

0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil

9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum

58 to 72 inches, dark yellowish brown very gravelly sandy loam, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have fewer rock fragments than the Howard and Alton soils
- Small areas of moderately well drained Phelps, somewhat poorly drained Fredon, and very poorly drained Halsey soils in small depressions and along drainageways
- Small areas where slopes are more than 45 percent

Soil Properties

Howard soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used as pasture or are in brushy or weedy fields.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Droughtiness results in moisture stress in plants late in the growing season. Excessive slope severely limits the operation of equipment.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Excessive slope limits the safe operation of farm machinery. Droughtiness may be a problem late in the growing season. Care must be taken to prevent overgrazing during this period.

Dwellings.—Excessive slope is the main limitation if this unit is used as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping are better sites for dwellings.

Septic tank absorption fields.—Because of excessive slope and in some areas the poor filtering capacity of the soils, this unit is very limited as a site for conventional septic tank absorption fields. Laterally moving effluent could seep out at the surface in downslope areas. Contamination of the ground water and of nearby water bodies can occur because of rapid or very rapid permeability in the substratum. The adjacent soils that are less sloping and have a better filtering capacity are better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas because of excessive slope and rapid or very rapid permeability in the substratum. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. Planning the location and grade of the roads and streets so that they conform to the slope and contour of the land and grading and filling can reduce the adverse effects of this limitation in some areas. The roads and streets should be built in the less sloping areas where possible. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

35A—Unadilla silt loam, 0 to 3 percent slopes

This very deep, nearly level, well drained soil is on stream terraces and lacustrine plains. It formed in water-deposited silt and very fine sand. Areas of this map unit are mainly oblong, oval, or elongated. They are as much as 70 acres in size but typically are less than 33 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 1 percent rock fragments

Subsoil
7 to 21 inches, yellowish brown silt loam

Substratum
21 to 72 inches, yellowish brown silt loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Moderately well drained Scio soils on the lower parts of the landscape and in slight depressions
- Some areas of somewhat poorly drained Wakeville soils that are subject to rare flooding
- A few small areas where slopes are more than 3 percent

Soil Properties

Unadilla soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to a wide variety of the cultivated crops grown in the county. Cultivated areas are used for corn, small grains, or hay. When managed properly, the soil can be cultivated intensively. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields. The moderate permeability in the subsoil and substratum may cause effluent to move too slowly through the soil. State and local health codes may prohibit the installation of conventional systems in some areas because of an undesirable permeability rate. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing on coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability class is 1.

35B—Unadilla silt loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on stream terraces and lacustrine plains. It formed in water-deposited silt and very fine sand. Areas of this map unit are mainly oblong, oval, elongated, or irregular in shape. They are as much as 254 acres in size but typically are less than 45 acres

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 1 percent rock fragments

Subsoil
7 to 21 inches, yellowish brown silt loam

Substratum
21 to 72 inches, yellowish brown silt loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Moderately well drained Scio soils on the lower parts of the landscape and in slight depressions
- Some areas of somewhat poorly drained Wakeville soils that are subject to rare flooding
- A few small areas where slopes are more than 8 percent

Soil Properties

Unadilla soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to a wide variety of the cultivated crops grown in the county. Cultivated areas are used for corn, small grains, or hay. Erosion is a hazard in the steeper areas and where slopes are long. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields. The moderate permeability in the subsoil and substratum may cause effluent to move too slowly through the soil. State and local health codes may prohibit the installation of conventional systems in some areas because of an undesirable permeability rate. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing on coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

35C—Unadilla silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on stream terraces and lacustrine plains. It formed in water-deposited silt and very fine sand. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 55 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 1 percent rock fragments

Subsoil
7 to 21 inches, yellowish brown silt loam

Substratum
21 to 72 inches, yellowish brown silt loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Scio soils on the lower parts of the landscape and in slight depressions
- A few small areas where slopes are more than 15 percent

Soil Properties

Unadilla soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope and moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action and excessive slope. Designing the roads so that they conform to the natural slope of the land and constructing on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

36B—Salmon silt loam, 2 to 8 percent slopes

This very deep, gently sloping, well drained soil is on lake plains, uplands, and terraces above the flood plains in major stream valleys. It formed in deposits with a high content of silt and very fine sand. Areas of this map unit are mainly oval, elongated, or irregular in shape. They are as much as 88 acres in size but typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 2 percent rock fragments

Subsoil
7 to 12 inches, brown very fine sandy loam, less than 5 percent rock fragments
12 to 27 inches, strong brown very fine sandy loam, less than 5 percent rock fragments

Substratum
27 to 45 inches, grayish brown very fine sandy loam, 10 percent rock fragments
45 to 72 inches, brown, stratified sandy loam, 10 percent rock fragments

Included Areas

Included areas make up about 15 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Nicholville and somewhat poorly drained Roundabout soils on the lower parts of the landscape and in slightly concave areas
- Somewhat excessively drained Adams and moderately well drained Croghan soils, which are sandier than the Salmon soil
- Small areas where slopes are more than 8 percent

Soil Properties

Salmon soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high

Soil reaction: Extremely acid through moderately acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields. The moderate permeability in the subsoil and substratum may cause effluent to move too slowly through the soil. State and local health codes may prohibit the installation of conventional systems in some areas because of an undesirable permeability rate. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing on additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

38A—Chenango gravelly silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat excessively drained soil is on broad outwash plains, terraces, and kames that parallel major drainageways north of Oneida Lake and the Mohawk River. The soil occurs mainly at an elevation of less than 1,000 feet. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong or broad and irregular in shape. They are as much as 618 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsoil
7 to 13 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

13 to 27 inches, yellowish brown gravelly very fine sandy loam, 30 percent rock fragments

Substratum

27 to 72 inches, brown extremely gravelly sand, 70 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Chenango soil, Knickerbocker and Alton soils. Knickerbocker soils have fewer rock fragments in the lower part than the Chenango soil. Alton soils are higher in content of lime than the Chenango soil.
- Moderately well drained Castile and somewhat poorly drained Fredon soils in small depressions and along drainageways
- Some areas of well drained Unadilla and moderately well drained Scio soils, which have with less gravel and more silt than the Chenango soil
- Small pockets of very poorly drained, organic Palms soils
- In the town of Lee, a few areas at an elevation of more than 1,000 feet
- Areas where the parent material in the substratum has reddish colors

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. A few areas are in brushy and weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—The rapid permeability in the substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

38B—Chenango gravelly silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat excessively drained soil is on the flatter part of broad outwash plains, terraces, and kames that parallel major drainageways in valleys north of Oneida Lake and the Mohawk River. The soil occurs mainly at an elevation of less than 1,000 feet. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong or broad and irregular in shape. They are as much as 513 acres in size but typically are less than 100 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsoil

7 to 13 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

13 to 27 inches, yellowish brown gravelly very fine sandy loam, 30 percent rock fragments

Substratum

27 to 72 inches, brown extremely gravelly sand, 70 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Chenango soil, Knickerbocker and Alton soils. Knickerbocker soils have fewer rock fragments in the lower part than the Chenango soil. Alton soils are higher in content of lime than the Chenango soil.
- Moderately well drained Castile and somewhat poorly drained Fredon soils in small depressions and along drainageways
- Some areas of well drained Unadilla and moderately well drained Scio soils, which have less gravel and more silt than the Chenango soil
- Small pockets of very poorly drained, organic Palms soils in depressions
- In the town of Lee, a few areas at an elevation of more than 1,000 feet
- Areas where the parent material in the substratum has reddish colors

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. A few areas are in brushy and weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the crops commonly grown in the county. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—The rapid permeability in the substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

38C—Chenango gravelly silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames that parallel major drainageways and valleys north of Oneida Lake and the Mohawk River. The soil occurs mainly at an elevation of less than 1,000 feet. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 421 acres in size but typically are less than 125 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsoil

7 to 13 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

13 to 27 inches, yellowish brown gravelly very fine sandy loam, 30 percent rock fragments

Substratum

27 to 72 inches, brown extremely gravelly sand, 70 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Chenango soil, Knickerbocker and Windsor soils. These soils have fewer rock fragments in the lower part than the Chenango soil.
- On the same landforms as the Chenango soil, spots of Alton soils. These soils are higher in content of lime than the Chenango soil.
- A few areas of moderately well drained Castile soils. These soils are in small depressions and concave areas where the water table is less than 6 feet below the surface.
- Udifluvents and Fluvaquents on some narrow flood plains
- Well drained soils that do not have water-sorted pebbles in the upper 3 feet
- Small pockets of very poorly drained, organic Palms soils in closed depressions associated with kames
- Areas where the parent material in the substratum has reddish colors

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture, cultivated crops, or hay. Some areas are used as woodland, and a few areas are in brushy and weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—The rapid permeability in the substratum and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

38D—Chenango gravelly silt loam, 15 to 25 percent slopes

This very deep, moderately steep, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames that parallel major drainageways and valleys north of Oneida Lake and the Mohawk River. The soil occurs mainly at an elevation of less than 1,000 feet. It formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, oblong, or irregular in shape. They range from 7 to 290 acres in size and typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsoil

7 to 13 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

13 to 27 inches, yellowish brown gravelly very fine sandy loam, 30 percent rock fragments

Substratum

27 to 72 inches, brown extremely gravelly sand, 70 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landscape as the Chenango soil, Knickerbocker and Windsor soils. These soils have fewer rock fragments in the lower part than the Chenango soil.
- On the same landforms as the Chenango soil, spots of Alton and Howard soils. These soils are higher in content of lime than the Chenango soil.

- A few areas of moderately well drained Castile soils. These soils are in small depressions and concave areas where the water table is less than 6 feet below surface.
- Udifluvents and Fluvaquents on some narrow flood plains
- Well drained soils that do not have water-sorted pebbles in the upper 3 feet
- Small pockets of very poorly drained, organic Palms soils in closed depressions associated with kames
- Areas where the parent material in the substratum has reddish colors

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used as woodland or are in brushy and weedy fields. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Excessive slope and the rapid permeability in the substratum are the main limitations if this unit is used as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity and that are less sloping should be considered in the selection of suitable sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

38E—Chenango gravelly silt loam, 25 to 45 percent slopes

This very deep, steep and very steep, somewhat excessively soil is on glacial outwash plains, terraces, eskers, moraines, and kames that parallel major drainageways north of Oneida Lake and the Mohawk River. The soil occurs mainly at an elevation of less than 1,000 feet. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly long and narrow, oblong, or irregular in shape. They are as much as 76 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsoil
7 to 13 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments
13 to 27 inches, yellowish brown gravelly very fine sandy loam, 30 percent rock fragments

Substratum
27 to 72 inches, brown extremely gravelly sand, 70 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landscape as the Chenango soil, Windsor and Knickerbocker soils. These soils have fewer rock fragments than the Chenango soil.
- Some small areas of Alton and Howard soils, which are higher in content of lime than the Chenango soil
- Udifluvents and Fluvaquents on some narrow flood plains
- Well drained soils that do not have water-sorted pebbles in the upper 3 feet
- Small pockets of very poorly drained, organic Palms soils in closed depressions associated with kames
- Areas where the parent material in the substratum has reddish colors

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used as pasture, and a few areas are used for hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Excessive slope is the main limitation affecting the use of this unit as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Excessive slope is the main limitation if this unit is used as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. The lateral movement of effluent, which could seep out at the surface in downslope areas, also is a hazard. The less sloping adjacent soils that have a better filtering capacity may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for cutting and filling reduce the adverse effects of this limitation in some areas. The roads and streets should be built in the less sloping areas where possible. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

39A—Knickerbocker fine sandy loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat excessively drained soil commonly parallels major drainageways, mainly in the central part of the county. It formed in sandy glacial outwash or deltaic deposits derived mainly from sandstone and from some siltstone. Areas of this map unit are mainly oval, oblong, elongated, or irregular in shape. They are as much as 750 acres in size but typically are less than 80 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown fine sandy loam, 3 percent rock fragments

Subsoil

9 to 16 inches, strong brown fine sandy loam, 3 percent rock fragments
16 to 30 inches, dark yellowish brown loamy fine sand, 1 percent rock fragments

Substratum

30 to 72 inches, brown fine sand, 1 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Knickerbocker soil, Chenango and Alton soils. These soils have more gravel in the subsoil and substratum than the Knickerbocker soil.
- Excessively drained Windsor soils, in which loamy fine sand or loamy sand is the dominant texture within the upper 20 inches
- Moderately well drained Castile soils in a few shallow depressions
- Spots of somewhat excessively drained Adams soils (warm phase). These soils have a spodic horizon.
- In the towns of Western, Steuben, and Trenton, a few areas of Knickerbocker soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.
- A few small areas where slopes are more than 3 percent

Soil Properties

Knickerbocker soil

Permeability: Moderately rapid in the surface layer and in the upper part of the subsoil and rapid or very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid through moderately acid throughout the profile
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and a few are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. In some areas droughtiness may affect shallow-rooted crops during extended dry periods. In places local soil blowing and surface crusting sometimes occur because of wind and water erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain good tilth, conserve moisture, and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness is a problem during extended dry periods in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavations is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Seepage somewhat limits the use of this unit as a site for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur in some areas because of the rapid or very rapid permeability in the subsoil and substratum. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water.

Local roads and streets.—Few or no limitations affect the use of this unit as a site local roads and streets.

The land capability subclass is 2s.

39B—Knickerbocker fine sandy loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat excessively drained soil commonly parallels major drainageways, mainly in the central part of the county. It formed in sandy glacial outwash or deltaic deposits derived mainly from sandstone and from some siltstone. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 204 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown fine sandy loam, 3 percent rock fragments

Subsoil
9 to 16 inches, strong brown fine sandy loam, 3 percent rock fragments
16 to 30 inches, dark yellowish brown loamy fine sand, 1 percent rock fragments

Substratum
30 to 72 inches, brown fine sand, 1 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Knickerbocker soil, Chenango and Alton soils. These soils have more gravel in the subsoil and substratum than the Knickerbocker soil.
- Excessively drained Windsor soils, in which loamy fine sand or loamy sand is the dominant texture within the upper 20 inches
- Moderately well drained Castile soils in a few shallow depressions
- Spots of somewhat excessively drained Adams soils (warm phase). These soils have a spodic horizon.
- In the towns of Western, Steuben, and Trenton, a few areas of Knickerbocker soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.
- A few small areas where slopes are more than 8 percent

Soil Properties

Knickerbocker soil

Permeability: Moderately rapid in the surface layer and in the upper part of the subsoil and rapid or very rapid in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid through moderately acid throughout the profile
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and a few are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. In some areas droughtiness may affect shallow-rooted crops during extended dry periods. Erosion is a hazard on long slopes and in the steeper areas. In some areas local soil blowing and surface crusting sometimes occur because of wind and water erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain good tilth, conserve moisture, and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness is a problem during extended dry periods in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavations is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Seepage somewhat limits the use of this unit as a site for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur in some areas because of the rapid or very rapid permeability in the subsoil and substratum. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water.

Local roads and streets.—Few or no limitations affect the use of this unit as a site local roads and streets.

The land capability subclass is 2s.

39C—Knickerbocker fine sandy loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat excessively drained soil commonly parallels major drainageways, mainly in the central part of the county. It formed in sandy glacial outwash or deltaic deposits derived mainly from sandstone and from some siltstone. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 118 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown fine sandy loam, 3 percent rock fragments

Subsoil
9 to 16 inches, strong brown fine sandy loam, 3 percent rock fragments
16 to 30 inches, dark yellowish brown loamy fine sand, 1 percent rock fragments

Substratum
30 to 72 inches, brown fine sand, 1 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Knickerbocker soil, Chenango and Alton soils. These soils have more gravel in the subsoil and substratum than the Knickerbocker soil.
- Excessively drained Windsor soils, in which loamy fine sand or loamy sand is the dominant texture within the upper 20 inches
- Moderately well drained Castile soils in a few shallow depressions
- Spots of somewhat excessively drained Adams soils (warm phase). These soils have a spodic horizon.
- In the town of Western, a few areas of Knickerbocker soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.
- A few small areas where slopes are more than 15 percent

Soil Properties

Knickerbocker soil

Permeability: Moderately rapid in the surface layer and in the upper part of the subsoil and rapid or very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid through moderately acid throughout the profile
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this unit are used as woodland, hayland, or pasture. Some areas are in brushy and weedy fields. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain good tilth, conserve moisture, and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness is a problem during extended dry periods in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. In some areas the instability of excavations is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Seepage and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur in some areas because of the rapid or very rapid permeability in the subsoil and substratum. In some areas the less sloping adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope somewhat limits the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land can reduce the adverse effects of this limitation.

The land capability subclass is 3e.

41—Niagara fine sandy loam

This very deep, nearly level, somewhat poorly drained soil is on lake plains. It formed in medium textured or moderately fine textured deposits. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 165 acres in size but typically are less than 55 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 11 inches, very dark grayish brown fine sandy loam

Subsurface layer
11 to 13 inches, brown fine sandy loam with a few yellowish brown redoximorphic concentrations and reddish brown redoximorphic depletions

Subsoil
13 to 21 inches, reddish brown silt loam with a few reddish gray redoximorphic depletions and common strong brown redoximorphic concentrations

Substratum
21 to 26 inches, reddish brown very fine sandy loam with common strong brown and brown redoximorphic concentrations and a few grayish brown redoximorphic depletions
26 to 32 inches, brown very fine sandy loam with a few grayish brown redoximorphic depletions and many strong brown redoximorphic concentrations
32 to 72 inches, reddish brown silt loam with common brown and a few olive gray redoximorphic depletions

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Moderately well drained Collamer soils on the slightly higher parts of the landscape

- In landscape positions similar to those of the Niagara soil, Rhinebeck soils, which have a higher content of clay than the Niagara soil
- In the southern and west-central parts of the county, small areas of Minoa soils, which are coarser textured than the Niagara soil
- A few areas where slopes are more than 3 percent

Soil Properties

Niagara soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and subsurface layer, moderately acid through slightly alkaline in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used for pasture, hay, or cultivated crops. Some areas are used as woodland. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings because of wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered as alternative sites for the construction of dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of wetness. The better drained adjacent soils should be considered as alternative sites for conventional systems. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, low strength, and wetness are the main limitations if this unit is used as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

42—Castile gravelly loam

This very deep, nearly level, moderately well drained soil is on the flatter part of glacial outwash plains and on low terraces along the bottom of valleys. It formed in water-sorted gravelly outwash. Areas of this map unit are mainly long and narrow, elliptical, or irregular in shape. They are as much as 132 acres in size but typically are less than 30 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, brown gravelly loam, 15 percent rock fragments

Subsoil
8 to 19 inches, dark yellowish brown gravelly loam, 25 percent rock fragments
19 to 28 inches, yellowish brown gravelly loam, 34 percent rock fragments

Substratum
28 to 72 inches, grayish brown very gravelly loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—
- Somewhat excessively drained Chenango and Alton soils on the slightly higher parts of the landscape
- Small areas of somewhat poorly drained Fredon and very poorly drained Halsey soils in small depressions and in drainageways
- North of the Mohawk River, a few areas of Castile soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.

Soil Properties

Castile soil

Permeability: Moderate or moderately rapid in the surface layer, moderately rapid in the subsoil, and rapid or very rapid in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most cultivated crops (fig. 3). Wetness caused by the seasonal high water table may be a problem during extended wet periods in some areas and may delay planting or harvesting. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Wetness caused by the seasonal high water table somewhat limits the use of this unit as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Seepage caused by the rapid or very rapid permeability in the substratum and the seasonal high water table somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Because of a poor filtering capacity, contamination of the ground water and of nearby water bodies can occur. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. Included and adjacent soils that are deeper to the

Figure 3.—An area of Castile gravelly loam in a hayfield. This soil is well suited to most of the crops grown in the county, except for some deep-rooted crops that may be adversely affected by a seasonal high water table in spring. Alton soils are in the slightly convex areas in the background.

water table or have a better filtering capacity also should be considered. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness in some areas. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation in many areas.

The land capability subclass is 2w.

43—Jebavy sand

This very deep, nearly level, poorly drained soil is in depressions and slightly concave areas on glacial lake plains and outwash plains, mainly in the west-central part of the county. It is at an elevation of less than 1,000 feet. The soil formed in water-sorted deposits and sandy outwash deposits that have cemented or indurated ortstein layers. Areas of this map unit are mainly oblong or irregular in shape. They are as much as 1,151 acres in size but typically are less than 60 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, very dark gray highly decomposed organic material

Subsurface layer
2 to 10 inches, brown sand

Subsoil
10 to 12 inches, black sand, about 50 percent cemented parts
12 to 14 inches, dark reddish brown sand, indurated and about 95 percent cemented (ortstein)
14 to 24 inches, strong brown and dark red sand with a few pinkish gray redoximorphic depletions and 20 percent firm, dark reddish brown concretions of sesquioxides
24 to 32 inches, brown fine sand with common yellowish brown redoximorphic concentrations

Substratum
32 to 72 inches, brown, firm fine sand

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Wareham soils, which do not have cemented horizons in the subsoil
- Very poorly drained soils having a mucky surface layer
- Moderately well drained Covert soils in the slightly higher areas
- Spots of excessively drained Windsor soils on knolls or knobs
- Very poorly drained Adrian, Palms, and Carlisle soils in some of the deeper depressions. These soils have organic deposits more than 16 inches thick.

- A few spots of somewhat poorly drained Minoa and poorly drained Lamson soils, which have moderately coarse textures
- In the towns of Western, Trenton, and Annsville, small areas of soils that have less sand in the upper part than the Jebavy soil

Soil Properties

Jebavy soil

Permeability: Rapid in the surface layer and subsurface layer, moderate in the upper and middle parts of the subsoil (ortstein), and rapid in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Very low or low

Soil reaction: Extremely acid through strongly acid in the surface layer, subsurface layer, and subsoil and strongly acid through slightly acid in the substratum

Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from October through June

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are idle and support water-tolerant brush, trees, and herbaceous vegetation. Some areas are used as woodland, and a few areas are used as pasture.

Cropland.—This unit is generally not suited to cultivated crops because of wetness caused by the seasonal high water table. In some areas the cemented subsoil layer and acid conditions in the upper part of the soil are additional limitations. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness caused by the seasonal high water table. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of lime and fertilizer can increase forage yields.

Dwellings.—Because of prolonged periods of wetness caused by the seasonal high water table and because of ponding in some areas, this unit is very limited as a site for dwellings. Installing interceptor drains that divert water from the higher areas can reduce the wetness in some areas. Better suited soils should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit. In some areas the instability of excavations is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of prolonged periods of wetness caused by the seasonal high water table, a poor filtering capacity, seepage in the substratum, and the cemented layer in the subsoil, this unit is very limited as a site for conventional septic tank absorption fields. In some areas ponding also is a limitation. Better suited soils should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, depth to a thin cemented pan, and ponding, this unit is very limited as a site for local roads and streets. Additions of coarse grained subgrade and base material to frost depth can reduce the effects of these limitations in a few areas. Better suited soils should be considered as alternative sites. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit.

The land capability subclass is 5w.

46A—Colosse gravelly loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat excessively drained soil is on outwash plains, valley trains, kames, and eskers in the northwestern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash having stratified sand and gravel in the lower part. Areas of this map unit are mainly oblong, elliptical, or elongated. They range from 5 to 89 acres in size and typically are less than 48 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch; slightly decomposed leaves and twigs
1 to 2 inches, black gravelly loam, 20 percent rock fragments, including 5 percent cobbles
2 to 6 inches, gravelly loam that is very dark grayish brown when moist and brown when dry, 25 percent rock fragments, including 5 percent cobbles

Subsoil

6 to 15 inches, dark reddish brown and dark brown very cobbly sandy loam, 35 percent rock fragments, including 15 percent cobbles
15 to 29 inches, strong brown very cobbly sandy loam, 40 percent rock fragments, including 15 percent cobbles

Substratum

29 to 39 inches, brown (mixed sand grain colors) very cobbly loamy sand, 50 percent rock fragments, including 20 percent cobbles
39 to 82 inches, brown and grayish brown (mixed sand grain colors) extremely gravelly sand, 65 percent rock fragments, including 20 percent cobbles

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Bice soils, which have less gravel in the subsoil and substratum than the Colosse soil
- Small areas of a soil that is similar to the Colosse soil but does not have a spodic horizon
- A few areas of somewhat excessively drained Adams and moderately well drained Croghan soils, which formed in outwash material. These soils are sandier than the Colosse soil.
- Spots of somewhat poorly drained Westbury and very poorly drained Tughill soils at the edge of some glacial till landforms
- Well drained Worth and moderately well drained Empeyville soils along the edge of the unit

- Spots of Wonsqueak soils in depressions and bogs. These soils have an organic mantle that is 16 to 51 inches thick.
- Some areas where slopes are more than 3 percent

Soil Properties

Colosse soil

Permeability: Moderately rapid in the mineral surface layer and subsoil and rapid or very rapid in the substratum

Available water capacity (40-inch profile): Mainly low or moderate

Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid or strongly acid in the subsoil, and strongly acid or moderately acid in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used as woodland or are in brushy and weedy fields. Some areas are used for cultivated crops, hay, or pasture.

Cropland.—This soil is moderately suited to cultivated crops. Droughtiness is the main limitation. A high content of gravel in some areas may interfere with certain tillage operations. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Cover crops, crop rotations, conservation tillage, and the return of crop residue to the soil increase the available water capacity and the content of organic matter and help to maintain good tilth.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—If this unit is used as a site for septic tank absorption fields, seepage of the effluent and contamination of ground water or of nearby water bodies can occur because of the rapid or very rapid permeability in the substratum. The adjacent soils that have a better filtering capacity should be considered as sites for conventional septic tank absorption fields in some areas. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 3s.

46B—Colosse gravelly loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat excessively drained soil is on outwash plains, valley trains, kames, and eskers in the northwestern and north-central parts of the county. It is at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash having stratified sand and gravel in the lower part. Areas of this map unit are mainly oblong or irregular in shape. They are as much as 31 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch; slightly decomposed leaves and twigs
1 to 2 inches, black gravelly loam, 20 percent rock fragments, including 5 percent cobbles
2 to 6 inches, gravelly loam that is very dark grayish brown when moist and brown when dry, 25 percent rock fragments, including 5 percent cobbles

Subsoil

6 to 15 inches, dark reddish brown and dark brown very cobbly sandy loam, 35 percent rock fragments, including 15 percent cobbles
15 to 29 inches, strong brown very cobbly sandy loam, 40 percent rock fragments, including 15 percent cobbles

Substratum

29 to 39 inches, brown (mixed sand grain colors) very cobbly loamy sand, 50 percent rock fragments, including 20 percent cobbles
39 to 82 inches, brown and grayish brown (mixed sand grain colors) extremely gravelly sand, 65 percent rock fragments, including 20 percent cobbles

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Bice soils, which have less gravel in the subsoil and substratum than the Colosse soil
- Small areas of a soil that is similar to the Colosse soil but does not have a spodic horizon
- A few areas of somewhat excessively drained Adams and moderately well drained Croghan soils, which formed in outwash material. These soils are sandier than the Colosse soil.
- Spots of somewhat poorly drained Westbury and very poorly drained Tughill soils at the edge of some glacial till landforms
- Well drained Worth and moderately well drained Empeyville soils at the edge of a few glacial till landforms
- Spots of Wonsqueak soils in depressions and bogs. These soils have an organic mantle that is 16 to 51 inches thick.

Soil Properties

Colosse soil

Permeability: Moderately rapid in the mineral surface layer and subsoil and rapid or very rapid in the substratum
Available water capacity (40-inch profile): Mainly low or moderate
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid or strongly acid in the subsoil, and strongly acid or moderately acid in the substratum

Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used for cultivated crops or hay. Some areas are used as woodland or pasture. A few areas are in brushy and weedy fields.

Cropland.—This soil is moderately suited to cultivated crops. Droughtiness is the main limitation. A high content of gravel in some areas may interfere with certain tillage operations. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Cover crops, crop rotations, conservation tillage, and the return of crop residue to the soil increase the available water capacity and the content of organic matter and help to maintain good tilth.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—If this unit is used as a site for septic tank absorption fields, seepage of the effluent and contamination of ground water or of nearby water bodies can occur because of the rapid or very rapid permeability in the substratum. The adjacent soils that have a better filtering capacity should be considered as sites for conventional septic tank absorption fields in some areas. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 3s.

46C—Colosse gravelly loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat excessively drained soil is on outwash plains, valley trains, kames, and eskers in the northwestern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash having stratified sand and gravel in the lower part. Areas of this map unit are irregular in shape and range from 7 to 10 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch; slightly decomposed leaves and twigs
1 to 2 inches, black gravelly loam, 20 percent rock fragments, including 5 percent cobbles

2 to 6 inches, gravelly loam that is very dark grayish brown when moist and brown when dry, 25 percent rock fragments, including 5 percent cobbles

Subsoil

6 to 15 inches, dark reddish brown and dark brown very cobbly sandy loam, 35 percent rock fragments, including 15 percent cobbles

15 to 29 inches, strong brown very cobbly sandy loam, 40 percent rock fragments, including 15 percent cobbles

Substratum

29 to 39 inches, brown (mixed sand grain colors) very cobbly loamy sand, 50 percent rock fragments, including 20 percent cobbles

39 to 82 inches, brown and grayish brown (mixed sand grain colors) extremely gravelly sand, 65 percent rock fragments, including 20 percent cobbles

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Bice soils, which have less gravel in the subsoil and substratum than the Colosse soil
- Small areas of a soil that is similar to the Colosse soil but does not have a spodic horizon
- Spots of somewhat poorly drained Westbury and very poorly drained Tughill soils at the edge of glacial till landforms
- Spots of Wonsqueak soils in depressions and bogs. These soils have an organic mantle that is 16 to 51 inches thick.

Soil Properties

Colosse soil

Permeability: Moderately rapid in the mineral surface layer and subsoil and rapid or very rapid in the substratum

Available water capacity (40-inch profile): Mainly low or moderate

Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid or strongly acid in the subsoil, and strongly acid or moderately acid in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

This map unit is used as woodland.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness may be a problem during extended dry periods. A high content of gravel in some areas may interfere with certain tillage operations. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of summer. Care must be taken to prevent overgrazing during droughty periods. Overgrazing can decrease the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of seepage caused by the rapid or very rapid permeability in the substratum and because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. Poor filtering of effluent can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes affect the design of conventional septic tank absorption fields. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

46D—Colosse gravelly loam, 15 to 25 percent slopes

This very deep, moderately steep, somewhat excessively drained soil is on outwash plains, valley trains, kames, and eskers in the northwestern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash having stratified sand and gravel in the lower part. Areas of this map unit are irregular in shape and are as much as 26 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch; slightly decomposed leaves and twigs
1 to 2 inches, black gravelly loam, 20 percent rock fragments, including 5 percent cobbles
2 to 6 inches, gravelly loam that is very dark grayish brown when moist and brown when dry, 25 percent rock fragments, including 5 percent cobbles

Subsoil

6 to 15 inches, dark reddish brown and dark brown very cobbly sandy loam, 35 percent rock fragments, including 15 percent cobbles
15 to 29 inches, strong brown very cobbly sandy loam, 40 percent rock fragments, including 15 percent cobbles

Substratum

29 to 39 inches, brown (mixed sand grain colors) very cobbly loamy sand, 50 percent rock fragments, including 20 percent cobbles
39 to 82 inches, brown and grayish brown (mixed sand grain colors) extremely gravelly sand, 65 percent rock fragments, including 20 percent cobbles

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Bice soils, which have less gravel in the subsoil and substratum than the Colosse soil
- Small areas of a soil that is similar to the Colosse soil but does not have a spodic horizon
- Spots of somewhat poorly drained Westbury and very poorly drained Tughill soils at the edge of glacial till landforms

Soil Properties

Colosse soil

Permeability: Moderately rapid in the mineral surface layer and subsoil and rapid or very rapid in the substratum
Available water capacity (40-inch profile): Mainly low or moderate
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid or strongly acid in the subsoil, and strongly acid or moderately acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

This map unit is used as woodland.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness may be a problem during extended dry periods. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Excessive slope and seepage caused by the rapid or very rapid permeability in the substratum are the main limitations on sites for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity and are less sloping may be better suited to conventional systems. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

47A—Scio silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on lake plains and stream terraces. It formed in water-sorted deposits that are high in content of silt and very fine sand. Areas of this map unit are mainly oval, elliptical, or irregular in shape. They are as much as 132 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, brown silt loam

Subsoil
8 to 20 inches, yellowish brown silt loam
20 to 32 inches, yellowish brown silt loam with common strong brown redoximorphic concentrations and light brownish gray redoximorphic depletions

Substratum
32 to 72 inches, brown silt loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Unadilla soils on the higher and more convex landforms
- Somewhat poorly drained Wallington and Niagara soils in some depressions and on the lower parts of the landscape
- Small areas of poorly drained Lamson and Canandaigua soils. These soils are along the edge of some broad lacustrine areas.
- Spots of excessively drained Windsor soils along the edge of nearby areas of sandy glacial outwash
- A few areas of Otego soils and somewhat poorly drained Wakeville soils on nearby flood plains. These sols are subject to flooding.

Soil Properties

Scio soil

Permeability: Moderate throughout the upper 40 inches and ranging from rapid through slow below a depth of 40 inches
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid through strongly acid in the surface layer and the upper part of the subsoil unless the soil is limed, very strongly acid through moderately acid in the lower part of the subsoil, and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and tilth. In a few areas brief periods of wetness in the spring can delay tillage. Surface compaction can occur if the soil is tilled when wet.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. In some areas the unit is only somewhat limited as a site for dwellings without basements. Installing tile drains around the footings of the dwellings can reduce the wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas also can reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the subsoil somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system in some areas can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

47B—Scio silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on lake plains and stream terraces above flood plains. It formed in water-sorted deposits that are high in content of silt and very fine sand content. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 124 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, brown silt loam

Subsoil
8 to 20 inches, yellowish brown silt loam
20 to 32 inches, yellowish brown silt loam with common strong brown redoximorphic concentrations and light brownish gray redoximorphic depletions

Substratum
32 to 72 inches, brown silt loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Unadilla soils on the higher and more convex landforms
- Somewhat poorly drained Wallington and Niagara soils in some depressions and on the lower parts of the landscape
- Small areas of poorly drained Lamson and Canandaigua soils. These soils are along the edge of some broad lacustrine areas.
- Spots of excessively drained Windsor soils along the edge of nearby areas of sandy glacial outwash
- A few areas of Otego soils and somewhat poorly drained Wakeville soils on nearby flood plains. These soils are subject to flooding.

Soil Properties

Scio soil

Permeability: Moderate throughout the upper 40 inches and ranging from rapid through slow below a depth of 40 inches
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid through strongly acid in the surface layer and the upper part of the subsoil unless the soil is limed, very strongly acid through moderately acid in the lower part of the subsoil, and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after planting helps to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and tilth. In a few areas brief periods of wetness in the spring can delay tillage. Surface compaction can occur if the soil is tilled when wet.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. In some areas the unit is only somewhat limited as a site for dwellings without basements. Installing tile drains around the footings of the dwellings can reduce the wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas also can reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the subsoil somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system in some areas can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

50—Wareham loamy fine sand

This very deep, nearly level, somewhat poorly drained soil is along narrow drainageways and in slightly concave areas on glacial outwash plains and deltas, mainly north of the Mohawk River and near Oneida Lake. It is at an elevation of less than 1,000 feet. It formed in sandy outwash and water-sorted deposits. Areas of this map unit are mainly oblong, oval, or irregular in shape. They are as much as 2,030 acres in size but typically are less than 120 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, black, moderately decomposed plant material
2 to 9 inches, very dark gray loamy fine sand

Subsoil
9 to 13 inches, dark yellowish brown loamy fine sand with common yellowish red redoximorphic concentrations
13 to 28 inches, brown loamy fine sand with a few yellowish red and many yellowish brown redoximorphic concentrations

Substratum
28 to 72 inches, grayish brown loamy sand with lenses of coarse sand below a depth of 36 inches and with many light olive brown redoximorphic concentrations

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Poorly drained Wareham and Jebavy soils. Jebavy soils have a cemented layer in the subsoil.
- Soils having a mucky surface layer
- Moderately well drained Covert soils in the slightly higher areas
- Spots of excessively drained Windsor soils on knolls or knobs
- Very poorly drained Palms soils in a few depressions. These soils have organic deposits that are 16 to 51 inches thick.
- A few areas of Minoa soils and poorly drained Lamson soils. These soils have fine sandy loam in the upper part of the subsoil.
- In the town of Trenton, several small areas of Wareham soils at an elevation of more than 1,000 feet

Soil Properties

Wareham soil
Permeability: Rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid throughout the profile
Depth to a seasonal high water table: 0.7 foot to 1.5 feet from November through May

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. Some areas are used as pasture, and a few areas are cultivated.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage. The inherent acid soil conditions and the rapid permeability throughout the soil restrict the growth of many crops. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture, especially in the drier areas. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer, weed control by yearly mowing and other means, and brush control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered when sites for dwellings are selected. The instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations. State or local regulations may prohibit or restrict the construction of dwellings in some areas of this unit. Wetland regulations should be investigated before dwellings are constructed in some areas of the unit.

Septic tank absorption fields.—Because of prolonged periods of wetness caused by the seasonal high water table, a poor filtering capacity, and seepage caused by rapid permeability, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. Better suited soils should be considered in many areas of this unit because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of some areas of this unit as sites for conventional septic tank absorption fields. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation. In some of the wettest areas, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before roads and streets are constructed on this unit.

The land capability subclass is 4w.

54D—Colton gravelly sandy loam, 15 to 35 percent slopes

This very deep, moderately steep and steep, excessively drained soil is on glacial outwash plains, terraces, kames, and eskers in the Adirondack foothills of the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in glacial outwash and water-sorted deposits. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 150 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, dark brown gravelly sandy loam, 20 percent rock fragments

Subsoil
4 to 7 inches, dark reddish brown gravelly loamy sand, 20 percent rock fragments
7 to 16 inches, strong brown gravelly loamy sand, 30 percent rock fragments
16 to 24 inches, brown very gravelly loamy sand, 40 percent rock fragments

Substratum
24 to 72 inches, brown very gravelly sand, 40 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat excessively drained Adams soils, which have fewer rock fragments than the Colton soil and have stratified sand within a depth of 40 inches
- Soils with stratified sand almost to the surface
- Some small areas of moderately well drained Croghan and somewhat poorly drained Naumburg soils. These soils are in the more concave areas and in depressions.
- Areas where slopes are more than 35 percent

Soil Properties

Colton soil

Permeability: Rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Very low
Soil reaction: Extremely acid through moderately acid in the surface layer and the upper part of the subsoil, very strongly acid through moderately acid in the lower part of the subsoil, and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are in brushy or weedy fields.

Cropland.—This unit is generally not suited to cultivated crops because of moderately steep and steep slopes and a severe hazard of erosion. Droughtiness may be a problem during extended dry periods. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. In some areas the less sloping adjacent soils are better sites for dwellings.

Septic tank absorption fields.—Because of excessive slope, a poor filtering capacity, and seepage resulting from very rapid permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. Because of the poor filtering capacity, contamination of the ground water and of nearby water bodies can occur. The adjacent soils that have a better filtering capacity and are less sloping may be better suited to conventional systems. In most areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 6e.

55A—Adams loamy sand, 0 to 3 percent slopes

This very deep, nearly level, excessively drained soil is on outwash plains, terraces, kames, eskers, and lake plains, mainly in the northeastern part of the county and, to a lesser extent, in the north-central part. It is at an elevation of more than 1,000 feet. Areas of this map unit are mainly somewhat oval, elongated, or irregular in shape. They are as much as 1,312 acres in size but typically are less than 320 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, black, highly decomposed plant material

Subsurface layer
1 to 4 inches, brown loamy sand

Subsoil
4 to 12 inches, brown loamy sand
12 to 17 inches, strong brown sand
17 to 25 inches, yellowish brown sand

Substratum
25 to 72 inches, yellowish brown sand

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Adams soil but have a loamy subsurface layer rather than a sandy one
- In a number of areas, soils that are similar to the Adams soil but do not have a spodic horizon
- Colton soils on small knobs and on short, steep slopes. These soils have gravelly or cobbly deposits.
- Moderately well drained Croghan and somewhat poorly drained Naumburg soils in small depressions and along drainageways
- Some areas of Adams soils that have a subsurface layer of coarser sand than is typical for this unit

Soil Properties

Adams soil

Permeability: Rapid in the subsurface layer and the upper part of the subsoil and very rapid in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly very low or low

Soil reaction: Extremely acid through moderately acid in the surface layer and subsurface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through slightly acid in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Conifer plantations occur in many areas. Some areas are used for cultivated crops, pasture, or hay. A few areas are idle and are covered with brush or weeds.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. Droughtiness is the main limitation. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by very rapid permeability in the substratum and because of a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Few or no limitations affect the use of this unit as a site for local roads and streets.

The land capability subclass is 3s.

55B—Adams loamy sand, 3 to 8 percent slopes

This very deep, gently sloping, excessively drained soil is on outwash plains, terraces, kames, eskers, and lake plains, mainly in the northeastern part of the county and, to a lesser extent, in the north-central part. It is at an elevation of more than 1,000 feet. Areas of this map unit are mainly somewhat oval, elongated, or irregular in shape. They are as much as 450 acres in size but typically are less than 155 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, black, highly decomposed plant material

Subsurface layer
1 to 4 inches, brown loamy sand

Subsoil
4 to 12 inches, brown loamy sand
12 to 17 inches, strong brown sand
17 to 25 inches, yellowish brown sand

Substratum
25 to 72 inches, yellowish brown sand

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Adams soil but have a loamy subsurface layer rather than a sandy one
- In a number of areas, soils that are similar to the Adams soil but do not have a spodic horizon
- Colton soils on small knobs and on short, steep slopes. These soils have gravelly or cobbly deposits.
- Moderately well drained Croghan and somewhat poorly drained Naumburg soils in small depressions and along drainageways
- Some areas of Adams soils that have a subsurface layer of coarser sand than is typical for this unit
- A few small areas where slopes are more than 8 percent

Soil Properties

Adams soil

Permeability: Rapid in the subsurface layer and the upper part of the subsoil and very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly very low or low

Soil reaction: Extremely acid through moderately acid in the surface layer and subsurface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Conifer plantations occur in many areas. Some areas are used for cultivated crops, pasture, or hay. A few areas are idle and are covered with brush or weeds.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. Droughtiness is the main limitation. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Water erosion is a hazard, particularly in areas where the surface is exposed and on long slopes. Wind erosion also is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the season (fig. 4). Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavations is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by very rapid permeability in the substratum and because of a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Few or no limitations affect the use of this unit as a site for local roads and streets.

The land capability subclass is 3s.

55C—Adams loamy sand, 8 to 15 percent slopes

This very deep, strongly sloping, excessively drained soil is on outwash plains, terraces, kames, eskers, and lake plains, mainly in the northeastern part of the county and, to a lesser extent, in the north-central part. It is at an elevation of more than 1,000 feet. Areas of this map unit are mainly somewhat oval, long and narrow, elongated, or irregular in shape. They are as much as 786 acres in size but typically are less than 200 acres

Figure 4.—A low or very low available water capacity limits forage production in areas of Adams loamy sand in map units 55B and 55C.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, black, highly decomposed plant material

Subsurface layer
1 to 4 inches, brown loamy sand

Subsoil
4 to 12 inches, brown loamy sand
12 to 17 inches, strong brown sand
17 to 25 inches, yellowish brown sand

Substratum
25 to 72 inches, yellowish brown sand

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Adams soil but have a loamy subsurface layer rather than a sandy one
- In a number of areas, soils that are similar to the Adams soil but do not have a spodic horizon
- Colton soils on small knobs and on short, steep slopes. These soils have gravelly or cobbly deposits.
- Moderately well drained Croghan and somewhat poorly drained Naumburg soils in small depressions and along drainageways

- Some areas of Adams soils that have a subsurface layer of coarser sand than is typical for this unit
- A few small areas where slopes are more than 15 percent

Soil Properties

Adams soil

Permeability: Rapid in the subsurface layer and the upper part of the subsoil and very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly very low or low
Soil reaction: Extremely acid through moderately acid in the surface layer and subsurface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Conifer plantations occur in many areas. Some areas are used for hay or pasture. A few areas are idle and are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season (fig. 4). Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of seepage caused by very rapid permeability in the substratum and because of a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope somewhat limits the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Erosion-control measures are needed during construction.

The land capability subclass is 4e.

55D—Adams loamy sand, 15 to 25 percent slopes

This very deep, moderately steep, excessively drained soil is on outwash plains, terraces, kames, eskers, and lake plains, mainly in the northeastern part of the county and, to a lesser extent, in the north-central part. It is at an elevation of more than 1,000 feet. Areas of this map unit are mainly somewhat oval, elongated, or irregular in shape. They are as much as 210 acres in size but typically are less than 26 acres

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, black, highly decomposed plant material

Subsurface layer
1 to 4 inches, brown loamy sand

Subsoil
4 to 12 inches, brown loamy sand
12 to 17 inches, strong brown sand
17 to 25 inches, yellowish brown sand

Substratum
25 to 72 inches, yellowish brown sand

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Adams soil but have a loamy subsurface layer rather than a sandy one
- In a number of areas, soils that are similar to the Adams soil but do not have a spodic horizon
- Colton soils on small knobs. These soils have gravelly or cobbly deposits.
- Moderately well drained Croghan and somewhat poorly drained Naumburg soils in small depressions and along drainageways
- Some areas of Adams soils that have a subsurface layer of coarser sand than is typical for this unit
- A few small areas where slopes are more than 25 percent

Soil Properties

Adams soil

Permeability: Rapid in the subsurface layer and the upper part of the subsoil and very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly very low or low
Soil reaction: Extremely acid through moderately acid in the surface layer and subsurface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Conifer plantations occur in many areas. A few areas are idle and are covered with brush or weeds. A few are used for cemeteries or sand pits.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Doughtiness may be a problem during extended dry periods. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of excessive slope, seepage caused by very rapid permeability in the substratum, and a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. The less sloping adjacent soils that have a better filtering capacity may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope and very rapid permeability in the substratum. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 6e.

55E—Adams loamy sand, 25 to 45 percent slopes

This very deep, steep and very steep, excessively drained soil is on outwash plains, terraces, kames, eskers, and lake plains, mainly in the northeastern part of the county and, to a lesser extent, in the north-central part. It is at an elevation of more than 1,000 feet. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 1,027 acres in size but typically are less than 200 acres

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, black, highly decomposed plant material

Subsurface layer
1 to 4 inches, brown loamy sand

Subsoil
4 to 12 inches, brown loamy sand
12 to 17 inches, strong brown sand
17 to 25 inches, yellowish brown sand

Substratum
25 to 72 inches, yellowish brown sand

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Adams soil but have a loamy subsurface layer rather than a sandy one
- In a number of areas, soils that are similar to the Adams soil but do not have a spodic horizon
- Colton soils on small knobs. These soils have gravelly or cobbly deposits.
- Moderately well drained Croghan and somewhat poorly drained Naumburg soils in small depressions and along drainageways
- Some areas of Adams soils that have a subsurface layer of coarser sand than is typical for this unit
- A few small areas where slopes are more than 45 percent

Soil Properties

Adams soil

Permeability: Rapid in the subsurface layer and the upper part of the subsoil and very rapid in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly very low or low
Soil reaction: Extremely acid through moderately acid in the surface layer and subsurface layer, very strongly acid through moderately acid in the subsoil, and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Conifer plantations occur in many areas. A few areas are idle and are covered with brush or weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Droughtiness results in moisture stress in plants late in the growing season. Excessive slope severely limits the operation of equipment.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful during pasture renovation in some areas. Excessive slope limits the safe operation of farm machinery. Droughtiness may be a problem late in the growing season. Care must be taken to prevent overgrazing during this period.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping are better suited to dwellings and should be considered as alternative sites. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of excessive slope, seepage caused by very rapid permeability in the substratum, and a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The lateral movement of effluent is a hazard. Contamination of the ground water and of nearby water bodies can occur because of very rapid permeability in the substratum. The adjacent soils that are less sloping and have a better filtering capacity may be better suited. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Roads should be routed around this unit where possible. Erosion-control measures are needed in some areas.

The land capability subclass is 7e.

56B—Becket-Skerry complex, 3 to 8 percent slopes, very bouldery

This unit consists of very deep, gently sloping, well drained and moderately well drained soils on hilltops, side slopes, footslopes, and broad plains in the glaciated uplands. These soils are in the Adirondack foothills in the northeastern part of the county. They are at an elevation of more than 1,000 feet. They formed in a friable, loamy mantle that overlies dense, sandy glacial till. Boulders cover 0.1 to 3 percent of the surface. Areas of this unit are mainly elongated or irregular in shape. They are as much as 503 acres in size but typically are less than 120 acres. This unit is about 40 percent well drained Becket soil, 35 percent moderately well drained Skerry soil, and 25 percent other soils. The Becket and Skerry soils occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer
0 to 1 inch, black silts and highly decomposed plant material

Subsoil
1 to 3 inches, dusky red fine sandy loam, 5 percent rock fragments
3 to 16 inches, dark brown fine sandy loam, 10 percent rock fragments
16 to 24 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments
24 to 34 inches, brown gravelly fine sandy loam with a few strong brown redoximorphic concentrations, 15 percent rock fragments

Substratum

34 to 41 inches, grayish brown, firm gravelly loamy sand with lenses of fine sandy loam and sandy loam and with strong brown redoximorphic concentrations in lenses, 20 percent rock fragments

41 to 72 inches, grayish brown, firm gravelly loamy sand with yellowish brown masses of iron accumulation, 25 percent rock fragments

The typical sequence, depth, and composition of the layers of the Skerry soil are as follows—

Surface layer

0 to 2 inches, black, highly decomposed plant material

2 to 6 inches, very dark brown fine sandy loam, 5 percent rock fragments

Subsurface layer

6 to 9 inches, brown fine sandy loam, 5 percent rock fragments

Subsoil

9 to 13 inches, dark reddish brown fine sandy loam, 5 percent rock fragments

13 to 27 inches, reddish brown sandy loam with strong brown redoximorphic concentrations and grayish brown redoximorphic depletions, 10 percent rock fragments

Substratum

27 to 72 inches, light olive brown loamy sand and brown gravelly fine sandy loam with strong brown redoximorphic concentrations, 10 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Adirondack soils on footslopes, along drainageways, and in small depressions. Where the slopes are more complex, these wetter included soils are more common.
- Along some perennial drainageways in terracelike positions, excessively drained Adams and Colton soils. These soils have stratified sandy material or pebbles within a depth of 40 inches.
- Soils that are similar to the Becket and Skerry soils but are friable in the lower part of the subsoil and in the substratum. These soils are on the same landforms as the Becket and Skerry soils. Predicting where these included soils occur is difficult.
- A few areas where slopes are more than 8 percent

Soil Properties

Becket soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from March through April

Flooding: None

Depth to bedrock: More than 60 inches

Skerry soil

Permeability: Moderate in the surface layer, subsurface layer, and subsoil and slow or moderately slow in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas support brush or weeds, and several small areas are used as pasture.

Cropland.—This unit is moderately suited to cultivated crops in areas where boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. In a few areas boulders do not significantly interfere with cultivation. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. The Becket soil is better suited to cultivated crops than the Skerry soil. In areas dominated by the Skerry soil, wetness can delay planting or harvesting during extended wet periods. In some areas a system of surface and subsurface drains can reduce the wetness. Stones on the surface may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after planting helps to control erosion in the steeper areas and on the longer slopes. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. In some areas maintaining the pasture can be hazardous because of the surface boulders. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, the Skerry soil is very limited as a site for dwellings with basements. The Becket soil is better suited to the construction of dwellings than the Skerry soil. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—The moderately slow or slow permeability in the dense substratum, wetness caused by the seasonal high water table in the Skerry soil, and large surface boulders somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Installing the absorption field in the higher areas of the unit, installing drains upslope from the absorption field, and establishing diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which effluent is absorbed into the soil. State and local health codes may affect the design of conventional septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system reduce wetness and the potential for frost action.

The land capability subclass is 6s.

56C—Becket-Skerry complex, 8 to 15 percent slopes, very bouldery

This unit consists of very deep, strongly sloping, well drained and moderately well drained soils on hilltops, side slopes, footslopes, and broad plains in the glaciated uplands. These soils are in the Adirondack foothills in the northeastern part of the county. They are at an elevation of more than 1,000 feet They formed in a friable, loamy mantle that overlies dense, sandy glacial till. Boulders cover 0.1 to 3 percent of the surface. Most areas are somewhat oval, elongated, or irregular in shape. They are as much as 1,064 acres in size but typically are less than 207 acres. This unit is about 45 percent well drained Becket soil, 35 percent moderately well drained Skerry soil, and 20 percent other soils. The Becket and Skerry soils occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer
0 to 1 inch, black silts and highly decomposed plant material

Subsoil
1 to 3 inches, dusky red fine sandy loam, 5 percent rock fragments
3 to 16 inches, dark brown fine sandy loam, 10 percent rock fragments
16 to 24 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments
24 to 34 inches, brown gravelly fine sandy loam with a few strong brown redoximorphic concentrations, 15 percent rock fragments

Substratum
34 to 41 inches, grayish brown, firm gravelly loamy sand with lenses of fine sandy loam and sandy loam and with strong brown redoximorphic concentrations in lenses, 20 percent rock fragments
41 to 72 inches, grayish brown, firm gravelly loamy sand with yellowish brown masses of iron accumulation, 25 percent rock fragments

The typical sequence, depth, and composition of the layers of the Skerry soil are as follows—

Surface layer
0 to 2 inches, black, highly decomposed plant material
2 to 6 inches, very dark brown fine sandy loam, 5 percent rock fragments

Subsurface layer
6 to 9 inches, brown fine sandy loam, 5 percent rock fragments

Subsoil
9 to 13 inches, dark reddish brown fine sandy loam, 5 percent rock fragments
13 to 27 inches, reddish brown sandy loam with strong brown redoximorphic concentrations and grayish brown redoximorphic depletions, 10 percent rock fragments

Substratum
27 to 72 inches, light olive brown loamy sand and brown gravelly fine sandy loam with strong brown redoximorphic concentrations, 10 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Adirondack soils on footslopes, along drainageways, and in small depressions. Where the slopes are more complex, these wetter included soils are more common.
- Along some perennial drainageways in terracelike positions, excessively drained Adams and Colton soils. These soils have stratified sandy material or pebbles within a depth of 40 inches.
- Soils that are similar to the Becket and Skerry soils but are friable in the lower part of the subsoil and in the substratum. These soils are on the same landforms as the Becket and Skerry soils. Predicting where these included soils occur is difficult.
- A few areas where slopes are more than 15 percent

Soil Properties

Becket soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from March through April
Flooding: None
Depth to bedrock: More than 60 inches

Skerry soil

Permeability: Moderate in the surface layer, subsurface layer, and subsoil and slow or moderately slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas support brush or weeds.

Cropland.—This unit is moderately suited to cultivated crops in areas where boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. The strong slopes and the hazard of erosion are management concerns. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. The Becket soil is better suited to cultivated crops than the Skerry soil. In areas dominated by the Skerry soil, wetness can delay planting or harvesting during extended wet periods. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. In some areas maintaining the pasture can be hazardous because of the surface boulders. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and control of brush and weeds increase forage yields.

Dwellings.—Wetness and excessive slope are the main limitations on sites for dwellings. The Becket soil is somewhat better suited to the construction of dwellings than the Skerry soil because it is better drained. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land.

Septic tank absorption fields.—The moderately slow or slow permeability in the dense substratum, wetness caused by the seasonal high water table in the Skerry soil, excessive slope, and large surface boulders somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Installing the absorption field in the higher areas of the unit, installing drains upslope from the absorption field, and establishing diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines and along the contour of the slope increases the rate at which effluent is absorbed into the soil. State and local health codes may affect the design of conventional septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, excessive slope, and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system reduce wetness and the potential for frost action.

The land capability subclass is 6s.

57A—Croghan loamy fine sand, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is in slight depressions on broad plains and along drainageways in the uplands, mainly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in sandy deltaic or glaciofluvial deposits. Generally, areas of this map unit are roughly oval, elliptical, elongated, or irregular in shape. They are as much as 165 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, moderately decomposed leaf litter
1 to 6 inches, black and brown loamy fine sand

Subsurface layer
6 to 10 inches, pinkish gray fine sand

Subsoil
- 10 to 11 inches, dark reddish brown sand
- 11 to 19 inches, reddish brown fine sand with 20 percent very dark grayish brown, firm cemented spots
- 19 to 24 inches, brown fine sand with common strong brown and a few yellowish red redoximorphic concentrations
- 24 to 34 inches, strong brown fine sand with a few pinkish gray redoximorphic depletions and a few strong brown redoximorphic concentrations

Substratum
- 34 to 49 inches, stratified, brown sand
- 49 to 72 inches, yellowish brown fine sand with yellowish red and dark yellowish brown lenses

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Soils that are similar to the Croghan soil but have more sand in the surface layer
- In some wooded areas, Croghan soils that have a thicker organic surface layer than is typical for the unit
- Some elevated areas of somewhat excessively drained Adams soils
- Somewhat poorly drained Naumburg soils in depressions and along drainageways
- Excessively drained Colton soils on the more convex landforms. These soils have more gravel than the Croghan soil.

Soil Properties

Croghan soil

Permeability: Moderately rapid or rapid in the mineral surface layer and rapid or very rapid in the subsoil and substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through moderately acid in the surface layer and very strongly acid through moderately acid in the subsurface layer, subsoil, and substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are used for cultivated crops or pasture. Several areas are idle and are covered with brush or weeds.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Droughtiness is a problem during extended dry periods in some areas. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the surface so that water flows away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Because of a poor filtering capacity and because of seepage resulting from the rapid or very rapid permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. In some areas the poor filtering capacity results in the contamination of ground water. Included and adjacent soils that are deeper to the water table and have a better filtering capacity should be considered as alternative sites. State and local health codes may affect the design of conventional septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

57B—Croghan loamy fine sand, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is in slight depressions on broad plains and along drainageways in the uplands, mainly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in sandy deltaic or glaciofluvial deposits. Areas of this map unit are mainly elliptical, elongated, or irregular in shape. They are as much as 119 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, moderately decomposed leaf litter
1 to 6 inches, black and brown loamy fine sand

Subsurface layer
6 to 10 inches, pinkish gray fine sand

Subsoil
10 to 11 inches, dark reddish brown sand
11 to 19 inches, reddish brown fine sand with 20 percent very dark grayish brown, firm cemented spots
19 to 24 inches, brown fine sand with common strong brown and a few yellowish red redoximorphic concentrations
24 to 34 inches, strong brown fine sand with a few pinkish gray redoximorphic depletions and a few strong brown redoximorphic concentrations

Substratum
34 to 49 inches, stratified, brown sand
49 to 72 inches, yellowish brown fine sand with yellowish red and dark yellowish brown lenses

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Croghan soil but have more sand in the surface layer
- In some wooded areas, Croghan soils that have a thicker organic surface layer than is typical for the unit
- Some elevated areas of somewhat excessively drained Adams soils
- Somewhat poorly drained Naumburg soils in depressions and along drainageways
- Excessively drained Colton soils on the more convex landforms. These soils have more gravel than the Croghan soil.
- A few small areas where slopes are more than 8 percent

Soil Properties

Croghan soil

Permeability: Moderately rapid or rapid in the mineral surface layer and rapid or very rapid in the subsoil and substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through moderately acid in the surface layer and very strongly acid through moderately acid in the subsurface layer, subsoil, and substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are idle and are covered with brush or weeds.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Droughtiness is a problem during extended dry periods in some areas. Water erosion is a hazard, particularly in areas where the surface is exposed and slopes are long. Wind erosion also is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the surface so that water flows away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Because of a poor filtering capacity and because of seepage resulting from the rapid or very rapid permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. In some areas the poor filtering capacity results in the contamination of ground water. Included and adjacent soils that are deeper to the water table and have a better filtering capacity should be considered as alternative sites. State and local health codes may affect the design of conventional septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

60B—Adirondack fine sandy loam, 2 to 8 percent slopes, very bouldery

This very deep, gently sloping, somewhat poorly drained and poorly drained soil is in concave areas on footslopes and the lower side slopes and along drainageways in the glaciated uplands. It is mainly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in glacial till. This map unit is typically about 55 percent somewhat poorly drained Adirondack soil and 30 percent poorly drained Adirondack soil. Boulders cover 0.1 to 3 percent of the surface. Areas of this map unit are mainly somewhat elliptical, elongated, or irregular in shape. They are as much as 360 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 2 inches, black, highly decomposed organic material with about 40 percent silt, 5 percent rock fragments

Subsurface layer

2 to 4 inches, gray fine sandy loam with a few light olive brown redoximorphic concentrations, 5 percent rock fragments

Subsoil

4 to 13 inches, dark reddish brown fine sandy loam with brown and dark reddish brown components and a few brown redoximorphic depletions and concentrations, 5 percent rock fragments

13 to 24 inches, brown sandy loam with common strong brown and light brown redoximorphic concentrations, 5 percent rock fragments

24 to 37 inches, yellowish brown coarse sandy loam with many dark yellowish brown redoximorphic concentrations and common light brownish gray redoximorphic depletions, 5 percent rock fragments

Substratum

37 to 46 inches, grayish brown cobbly sandy loam with common yellowish brown redoximorphic concentrations and light brownish gray redoximorphic depletions, 20 percent rock fragments

46 to 72 inches, grayish brown, firm cobbly coarse sandy loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Becket and moderately well drained Skerry soils on the higher parts of the landscape and in elevated areas
- Dawson peat in depressions. This soil is peaty to a depth of more than 16 inches.
- Greenwood peat in deep depressions. This soil is a peaty to a depth of more than 51 inches.
- Well drained Tunbridge soils, which have bedrock at a depth of 20 to 40 inches
- Lyman soils, which have bedrock within a depth of 20 inches
- Some areas where slopes are more than 8 percent
- A few areas where slopes are less than 2 percent

Soil Properties

Adirondack soil

Permeability: Moderate in the surface layer, subsurface layer, subsoil, and the friable part of the substratum and slow in the dense part of the substratum
Available water capacity (40-inch profile): Low through high
Soil reaction: Extremely acid or very strongly acid in the organic surface layer, extremely acid through strongly acid in the subsurface layer and subsoil, very strongly acid through moderately acid in the transition from the subsoil to the substratum, and strongly acid or moderately acid in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October trough June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are used for pasture or hay, and some spots are cultivated. Some spots are idle and support brush and weeds.

Cropland.—This unit is moderately suited to cultivated crops in areas where boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. Wetness caused by the seasonal high water table is a limitation. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Surface compaction can occur if the fields are worked when the soil is wet. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. A system of surface and subsurface drains is needed in the wetter areas. Stones on the surface may cause excessive wear of equipment or damage to the equipment. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. In some areas maintaining the pasture can be hazardous because of the surface boulders. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings because of wetness caused by the seasonal high water table. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

The better drained adjacent soils should be considered as alternative sites for the construction of dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of wetness caused by the seasonal high water table above a dense substratum. The better drained adjacent soils should be considered as alternative sites for conventional systems. Absorption fields can be installed in some of the higher areas. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness and the potential for frost action, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas. Boulders on the surface may interfere with road construction in a few areas.

The land capability subclass is 6s.

61A—Schoharie silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on lake plains and glacial landforms mantled with lacustrine sediments. It formed in reddish, clayey sediments. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 64 acres in size but generally are less than 21 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark brown silt loam

Subsoil
10 to 14 inches, reddish brown silty clay loam with common yellowish red and a few strong brown redoximorphic concentrations
14 to 39 inches, reddish brown silty clay with common strong brown redoximorphic concentrations
39 to 55 inches, reddish brown silty clay

Substratum
55 to 72 inches, brown silty clay

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Rhinebeck and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Some areas of Collamer soils in the same landscape positions as the Schoharie soil. These soils have less clay and more silt than the Schoharie soil.
- In a few depressions, somewhat poorly drained Niagara soils, which have less clay than the Schoharie soil
- A few areas where slopes are more than 3 percent

Soil Properties

Schoharie soil

Permeability: Moderately slow in the surface layer and slow or very slow in the subsoil and substratum
Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the upper part of the subsoil, and slightly alkaline or moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 1.5 to 3.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. In some areas planting or harvesting is delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness delays grazing early in spring. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage and generally increases the runoff rate. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. The shrink-swell potential and the seasonal high water table somewhat limit the use of the unit as a site for dwellings without basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Reinforcing the concrete in foundations reduces the adverse effects of the shrink-swell potential.

Septic tank absorption fields.—Because of the slow or very slow permeability in the subsoil and substratum and the seasonal high water table, this unit is very limited as a site for septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. In some areas the absorption field should be installed on the higher parts of the unit. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2w.

61B—Schoharie silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on lake plains and glacial landforms mantled with lacustrine sediments. It formed in reddish, clayey sediments. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 155 acres in size but generally are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark brown silt loam

Subsoil
10 to 14 inches, reddish brown silty clay loam with common yellowish red and a few strong brown redoximorphic concentrations
14 to 39 inches, reddish brown silty clay with common strong brown redoximorphic concentrations
39 to 55 inches, reddish brown silty clay

Substratum
55 to 72 inches, brown silty clay

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Rhinebeck and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Some areas of Collamer soils in the same landscape position as the Schoharie soil. These soils have less clay and more silt than the Schoharie soil.
- In a few depressions, somewhat poorly drained Niagara soils, which have less clay than the Schoharie soil
- A few areas where slopes are more than 8 percent

Soil Properties

Schoharie soil

Permeability: Moderately slow in the surface layer and slow or very slow in the subsoil and substratum
Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the upper part of the subsoil, and slightly alkaline or moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 1.5 to 3.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and a few are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. In some areas wetness delays grazing early in spring. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage and generally increases the runoff rate. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. The shrink-swell potential and the seasonal high water table somewhat limit the use of the unit as a site for dwellings without basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Reinforcing the concrete in foundations reduces the adverse effects of the shrink-swell potential.

Septic tank absorption fields.—Because of the slow or very slow permeability in the subsoil and substratum and the seasonal high water table, this unit is very limited as a site for septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. In some areas the absorption field should be installed on the higher parts of the unit. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2e.

61C—Schoharie silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on lake plains and glacial landforms mantled with lacustrine sediments. It formed in reddish, clayey sediments. Areas of this map unit are mainly elliptical, elongated, or irregular in shape. They are as much as 75 acres in size but generally are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark brown silt loam

Subsoil
10 to 14 inches, reddish brown silty clay loam with common yellowish red and a few strong brown redoximorphic concentrations
14 to 39 inches, reddish brown silty clay with common strong brown redoximorphic concentrations
39 to 55 inches, reddish brown silty clay

Substratum
55 to 72 inches, brown silty clay

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Rhinebeck and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Some areas of Collamer soils in the same landscape positions as the Schoharie soil. These soils have less clay and more silt than the Schoharie soil.
- In a few depressions, somewhat poorly drained Niagara soils, which have less clay than the Schoharie soil
- Areas where slopes are more than 15 percent

Soil Properties

Schoharie soil

Permeability: Moderately slow in the surface layer and slow or very slow in the subsoil and substratum
Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the upper part of the subsoil, and slightly alkaline or moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 1.5 to 3.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are in brushy or weedy fields or are used as woodland. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. In some areas wetness delays grazing early in spring. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage and generally increases the runoff rate. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. The shrink-swell potential, excessive slope, and the seasonal high water table somewhat limit the use of the unit as a site for dwellings without basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Reinforcing the concrete in foundations reduces the adverse effects of the shrink-swell potential.

Septic tank absorption fields.—Because of the slow or very slow permeability in the subsoil and substratum and the seasonal high water table, this unit is very limited as a site for septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. In some areas the absorption field should be installed on the higher parts of the unit. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3e.

61E—Schoharie silt loam, 20 to 40 percent slopes

This very deep, steep and very steep, moderately well drained soil is on lake plains and glacial landforms mantled with lacustrine sediments. It formed in reddish, clayey sediments. Areas of this unit are mainly elongated or irregular in shape. They are as much as 105 acres in size but generally are less than 27 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark brown silt loam

Subsoil
10 to 14 inches, reddish brown silty clay loam with common yellowish red and a few strong brown redoximorphic concentrations
14 to 39 inches, reddish brown silty clay with common strong brown redoximorphic concentrations
39 to 55 inches, reddish brown silty clay

Substratum
55 to 72 inches, brown silty clay

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of somewhat poorly drained Rhinebeck and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Some areas of Collamer soils in the same landscape positions as the Schoharie soil. These soils have less clay and more silt than the Schoharie soil.
- In a few depressions, somewhat poorly drained Niagara soils, which have less clay than the Schoharie soil
- Small areas where slopes are more than 40 percent

Soil Properties

Schoharie soil

Permeability: Moderately slow in the surface layer and slow or very slow in the subsoil and substratum
Available water capacity (40-inch profile): High

Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the upper part of the subsoil, and slightly alkaline or moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 1.5 to 3.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are in brushy or weedy fields. A few areas are used for pasture or hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope limits the safe operation of farm machinery.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful in renovating the pasture in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, the unit is very limited as a site for dwellings with basements because of wetness. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. Erosion-control measures are needed to protect nearby waterways from the deposition of sediment.

Septic tank absorption fields.—Because of excessive slope and slow or very slow permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Laterally moving effluent could seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed. Erosion-control measures are needed to protect nearby waterways from the deposition of sediment.

Local roads and streets.—Because of excessive slope and low strength, this unit is very limited as a site for local roads and streets. In some areas designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for cutting and filling reduce the severity of the limitation caused by slope. Erosion-control measures are needed to protect nearby waterways from the deposition of sediment. In some areas constructing the roads on raised additions of coarse grained subgrade and base material can reduce the severity of the limitation caused by low strength.

The land capability subclass is 7e.

62C—Becket-Tunbridge complex, 3 to 15 percent slopes, very bouldery

This unit consists of very deep and moderately deep, gently sloping and strongly sloping, well drained soils on side slopes and hilltops in the glaciated, bedrock-controlled uplands. It is in the Adirondack foothills in the northeastern part of the county. It occurs at an elevation of more than 1,000 feet. These soils formed in glacial till. Boulders cover 0.1 to 3 percent of the surface (fig. 5). Areas of this unit are mainly elongated or irregular in shape. They range from 4 to 274 acres in size and typically are less than 47 acres. This unit is about 45 percent very deep, well drained Becket soil; 35 percent moderately deep, well drained Tunbridge soil; and 20 percent other soils. The Becket and Tunbridge soils occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer
0 to 1 inch, black silts and highly decomposed plant material

Subsoil
1 to 3 inches, dusky red fine sandy loam, 5 percent rock fragments
3 to 16 inches, dark brown fine sandy loam, 10 percent rock fragments
16 to 24 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments
24 to 34 inches, brown gravelly fine sandy loam with a few strong brown redoximorphic concentrations, 15 percent rock fragments

Substratum
34 to 41 inches, grayish brown, firm gravelly loamy sand with lenses of fine sandy loam and sandy loam and with strong brown redoximorphic concentrations in lenses, 20 percent rock fragments
41 to 72 inches, grayish brown, firm gravelly loamy sand with yellowish brown masses of iron accumulation, 25 percent rock fragments

Figure 5.—Large bounders on the surface hinder cultivation of cropland and mechanical tree planting in areas of Becket-Tunbridge complex, 3 to 15 percent slopes, very bouldery, and Becket-Tunbridge complex, 15 to 35 percent slopes, very bouldery.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer
0 to 3 inches, black, highly decomposed plant material
3 to 8 inches, very dark gray fine sandy loam, 5 percent rock fragments

Subsurface layer
8 to 9 inches, gray fine sandy loam, 5 percent rock fragments

Subsoil
9 to 12 inches, dark reddish brown fine sandy loam, 10 percent rock fragments
12 to 14 inches, reddish brown gravelly fine sandy loam, 20 percent rock fragments
14 to 18 inches, yellowish red gravelly fine sandy loam, 25 percent rock fragments
18 to 30 inches, brown fine sandy loam, 25 percent rock fragments

Substratum
30 to 38 inches, brown fine sandy loam, 25 percent rock fragments

Bedrock
38+ inches, folded granite, schist, and gneiss bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Very deep, moderately well drained Skerry and very deep, somewhat poorly drained Adirondack soils on footslopes, along drainageways, and in small depressions
- On the same landforms as the Becket and Tunbridge soils, somewhat excessively drained Lyman soils, which have bedrock within a depth of 20 inches
- Exposed bedrock
- Many areas of soils that are similar to the Tunbridge soil but have bedrock at a depth of 40 to 60 inches
- Soils that are friable in the lower part of the subsoil and in the substratum. Predicting where these soils occur is difficult.
- Somewhat excessively drained or excessively drained, sandy Adams soils
- A few areas of Colton soils, which have more gravel than the Becket and Tunbridge soils
- A few areas where slopes are more than 15 percent

Soil Properties

Becket soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from March through April
Flooding: None
Depth to bedrock: More than 60 inches

Tunbridge soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Low through high

Soil reaction: Extremely acid through moderately acid in the surface layer, subsurface layer, and subsoil and strongly acid through slightly acid in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas support brush or weeds.

Cropland.—This unit is moderately suited to cultivated crops in areas where boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. Numerous bedrock outcrops may be a problem in some areas. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. The Becket soil is better suited to cultivated crops than the Tunbridge soil. A conservation tillage system that leaves crop residue on the surface after planting helps to control erosion in the steeper areas and on the longer slopes. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas maintaining the pasture can be hazardous because of the surface boulders. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of the depth to bedrock, the Tunbridge soil is very limited as a site for dwellings with basements. The seasonal high water table and excessive slope in some areas somewhat limit the Becket soil as a site for dwellings with basements. Dwellings should be designed so that they conform to the natural slope of the land. The dwellings should be constructed in the areas of the deeper soils. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—The depth to bedrock in the Tunbridge soil, the moderately slow or slow permeability in the dense substratum of the Becket soil, and excessive slope in some areas somewhat limit the use of this unit as a site for conventional septic tank absorption fields. On the deeper parts of the unit, enlarging the absorption field may help to overcome the adverse effects of restricted permeability. In some areas the adjacent soils that are very deep to bedrock are better suited to conventional septic systems. State and local health codes may affect the design of conventional septic tank absorption fields in some areas. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, excessive slope in most areas, and the depth to bedrock in the Tunbridge soil somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system reduce the potential for frost action. Designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for removal of the bedrock can reduce the costs associated with the limitations caused by slope and depth to bedrock.

The land capability subclass is 6s.

62D—Becket-Tunbridge complex, 15 to 35 percent slopes, very bouldery

This unit consists of very deep and moderately deep, moderately steep and steep, well drained soils on side slopes and hilltops in the glaciated, bedrock-controlled uplands. It is in the Adirondack foothills in the northeastern part of the county. It occurs at an elevation of more than 1,000 feet. These soils formed in firm glacial till. Boulders cover 0.1 to 3 percent of the surface (fig. 5). Areas of this unit are mainly elongated or irregular in shape. They range from 4 to 238 acres in size and typically are less than 75 acres. This unit is about 40 percent very deep, well drained Becket soil; 35 percent moderately deep, well drained Tunbridge soil; and 25 percent other soils. The Becket and Tunbridge soils occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer
0 to 1 inch, black silts and highly decomposed plant material

Subsoil
1 to 3 inches, dusky red fine sandy loam, 5 percent rock fragments
3 to 16 inches, dark brown fine sandy loam, 10 percent rock fragments
16 to 24 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments
24 to 34 inches, brown gravelly fine sandy loam with a few strong brown redoximorphic concentrations, 15 percent rock fragments

Substratum
34 to 41 inches, grayish brown, firm gravelly loamy sand with lenses of fine sandy loam and sandy loam and with strong brown redoximorphic concentrations in lenses, 20 percent rock fragments
41 to 72 inches, grayish brown, firm gravelly loamy sand with yellowish brown masses of iron accumulation, 25 percent rock fragments

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer
0 to 3 inches, black, highly decomposed plant material
3 to 8 inches, very dark gray fine sandy loam, 5 percent rock fragments

Subsurface layer
8 to 9 inches, gray fine sandy loam, 5 percent rock fragments

Subsoil
9 to 12 inches, dark reddish brown fine sandy loam, 10 percent rock fragments
12 to 14 inches, reddish brown gravelly fine sandy loam, 20 percent rock fragments
14 to 18 inches, yellowish red gravelly fine sandy loam, 25 percent rock fragments
18 to 30 inches, brown fine sandy loam, 25 percent rock fragments

Substratum
30 to 38 inches, brown fine sandy loam, 25 percent rock fragments

Bedrock
38+ inches, folded granite, schist, and gneiss bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Very deep, moderately well drained Skerry and very deep, somewhat poorly drained Adirondack soils on footslopes, along drainageways, and in small depressions
- On the same landforms as the Becket and Tunbridge soils, somewhat excessively drained Lyman soils, which have bedrock within a depth of 20 inches
- Exposed bedrock
- Many areas of soils that are similar to the Tunbridge soil but have bedrock at a depth of 40 to 60 inches
- Soils that are friable in the lower part of the subsoil and in the substratum. Predicting where these soils occur is difficult.
- A few areas of somewhat excessively drained and excessively drained, sandy Adams soils
- A few areas of Colton soils, which have more gravel than the Becket and Tunbridge soils
- A few areas where slopes are more than 35 percent

Soil Properties

Becket soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from March through April
Flooding: None
Depth to bedrock: More than 60 inches

Tunbridge soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Low through high
Soil reaction: Extremely acid through moderately acid in the surface layer, subsurface layer, and subsoil and strongly acid through slightly acid in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas support brush or weeds.

Cropland.—Because of the moderately steep and steep slopes and a severe hazard of erosion, this unit is poorly suited to cultivated crops even in areas where boulders have been removed from the surface. Many areas have too many boulders for cultivation. Numerous bedrock outcrops may be a problem in some areas. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Operating farm equipment is hazardous in the steeper areas.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. In some areas maintaining the pasture can be hazardous because of the surface boulders. Equipment use is limited by excessive slope in many areas and by surface boulders or rock outcrops in some areas. Proper stocking rates and rotational grazing increase the quantity and quality of forage.

Dwellings.—Because of excessive slope and the depth to bedrock, this unit is very limited as a site for dwellings with basements. The steeper areas of the unit are generally not suited to dwellings. In many areas extensive alterations are needed to make this unit suitable for the construction of dwellings. The adjacent soils that are less sloping and deeper to bedrock may be better suited.

Septic tank absorption fields.—Many areas of this unit are very limited as sites for conventional septic tank absorption fields because of excessive slope. The adjacent soils that are very deep to bedrock and less sloping may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope or, in some areas, the depth to bedrock. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Other limitations are the potential for frost action in both soils and the depth to bedrock in the Tunbridge soil. Designing the roads so that they conform to the natural slope of the land, selecting road locations and grades that minimize the need for removal of the bedrock, and adding fill can help overcome these limitations in some areas.

The land capability subclass is 7s.

63A—Wallington very fine sandy loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is on lake plains, on uplands, and on terraces above major stream valleys. In most areas it is west of the city of Rome. It formed in lacustrine deposits with a high content of silt and very fine sand. The subsoil has a dense fragipan. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 145 acres in size but typically are less than 36 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark brown very fine sandy loam

Subsoil

9 to 12 inches, brown very fine sandy loam with common yellowish red redoximorphic concentrations

12 to 15 inches, yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations

15 to 24 inches, yellowish brown, firm silt loam with common brownish yellow redoximorphic concentrations

24 to 35 inches, light brownish gray, yellowish brown, and brownish yellow, firm silt loam

Substratum

35 to 80 inches, yellowish brown, firm silt loam with lenses of fine sandy loam and common grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Unadilla and moderately well drained Scio soils on the higher parts of the landscape
- Rarely flooded Wakeville soils in the lower areas and on flood plains
- Some areas of Rhinebeck soils, which do not have a fragipan in the subsoil and have more clay in the subsoil than the Wallington soil
- A few areas of Minoa and Niagara soils and poorly drained Lamson soils. These soils do not have a fragipan in the subsoil. Minoa and Lamson soils are coarser textured than the Wallington soil, and Niagara soils are finer textured.
- In the town of Remsen, a few areas at an elevation of more than 1,000 feet

Soil Properties

Wallington soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer, very strongly through slightly acid in the upper part of the subsoil, very strongly acid thorough neutral in the lower part of the subsoil, and moderately acid through neutral in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay or are in brushy and weedy fields. Some areas are used as woodland. Some small areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. The firm fragipan in the subsoil limits the growth of some crops. Growing cover crops and returning crop residue to the soil or regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings with basements because of the seasonal high water table and depth to a thin cemented pan. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas can reduce the wetness in some areas. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of the water table perched over a dense subsoil and substratum. The better drained adjacent soils should be considered as alternative sites. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action, the depth to a thin cemented pan, and wetness, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3w.

63B—Wallington very fine sandy loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on lake plains, on uplands, and on terraces in major stream valleys. In most areas it is west of the city of Rome. It formed in lacustrine deposits with a high content of silt and very fine sand. The subsoil has a dense fragipan. Areas of this map unit are mainly elliptical, elongated, or irregular in shape. They are as much as 74 acres in size but typically are less than 23 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown very fine sandy loam

Subsoil
9 to 12 inches, brown very fine sandy loam with common yellowish red redoximorphic concentrations
12 to 15 inches, yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations
15 to 24 inches, yellowish brown, firm silt loam with common brownish yellow redoximorphic concentrations
24 to 35 inches, light brownish gray, yellowish brown, and brownish yellow, firm silt loam

Substratum
35 to 80 inches, yellowish brown, firm silt loam with lenses of fine sandy loam and common grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Unadilla and moderately well drained Scio soils on the higher parts of the landscape
- Rarely flooded Wakeville soils in the lower areas and on flood plains
- Some areas of Rhinebeck soils, which do not have a fragipan in the subsoil and have more clay in the subsoil than the Wallington soil
- Minoa and Niagara soils and poorly drained Lamson soils. These soils do not have a fragipan in the subsoil. Minoa and Lamson soils are coarser textured than the Wallington soil, and Niagara soils are finer textured.

Soil Properties

Wallington soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer, very strongly through slightly acid in the upper part of the subsoil, very strongly acid thorough neutral in the lower part of the subsoil, and moderately acid through neutral in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay or are in brushy and weedy fields. A few areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. The firm fragipan in the subsoil limits the growth of some crops. Erosion is a hazard in the steeper areas and on long slopes. Conservation tillage and contour stripcropping reduce the hazard of erosion in the steeper areas. Growing cover crops and returning crop residue to the soil or regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings with basements because of the seasonal high water table and depth to a thin cemented pan. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas can reduce the wetness in some areas. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of the water table perched over a dense subsoil and substratum. The better drained adjacent soils should be considered as alternative sites. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action, the depth to a thin cemented pan, and wetness, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3w.

64A—Rhinebeck silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is on lake plains and terraces. It formed in moderately fine textured and fine textured lacustrine deposits. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 895 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark gray silt loam with a few yellowish brown redoximorphic concentrations

Subsoil

9 to 17 inches, brown, firm silty clay loam with common yellowish brown redoximorphic concentrations

17 to 28 inches, brown, firm silty clay loam with a few yellowish brown redoximorphic concentrations and common gray redoximorphic depletions

28 to 35 inches, brown and reddish brown, firm silty clay loam

Substratum

35 to 72 inches, reddish brown, firm silty clay loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Moderately well drained Collamer and Schoharie soils on elevated parts of the landscape
- Some areas of Niagara soils, which have less clay in the subsoil and substratum than the Rhinebeck soil
- A few areas of Palms soils, which are organic to a depth of more than 16 inches and are in depressions
- A few areas where slopes are more than 3 percent

Soil Properties

Rhinebeck soil

Permeability: Moderate or moderately slow in the surface layer and slow in the subsoil and substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer, strongly acid through slightly alkaline in the upper part of the subsoil, and slightly acid through moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or are in brushy or weedy fields. Some areas are used as woodland. A few areas are used for hay (fig. 6) or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Because of its position on the landscape, this soil often receives runoff from the adjacent areas. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. This soil should be tilled at the proper moisture content because it is sticky when wet and can become compact and form a

Figure 6.—A meadow in an area of Rhinebeck silt loam, 0 to 3 percent slopes. This meadow supports most hay crops, including shallow-rooted legumes. Canandaigua silt loam is in the background.

cloddy, crusty surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings because of wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered as alternative sites for the construction of dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of wetness and the slow permeability in the subsoil and substratum. The adjacent soils that are better drained and more permeable should be considered when sites for conventional systems are selected. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action, wetness, and low strength, this unit is very limited as a site for local roads and streets. In some areas constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations. In many areas a better alternative would be to construct local roads and streets on nearby soils that are not so wet and clayey as this soil.

The land capability subclass is 3w.

64B—Rhinebeck silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on lake plains. It formed in moderately fine textured and fine textured lacustrine deposits. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 162 acres in size but typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark gray silt loam with a few yellowish brown redoximorphic concentrations

Subsoil

9 to 17 inches, brown, firm silty clay loam with common yellowish brown redoximorphic concentrations

17 to 28 inches, brown, firm silty clay loam with a few yellowish brown redoximorphic concentrations and common gray redoximorphic depletions

28 to 35 inches, brown and reddish brown, firm silty clay loam

Substratum

35 to 72 inches, reddish brown, firm silty clay loam

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Moderately well drained Collamer and Schoharie soils on elevated parts of the landscape
- Some areas of Niagara soils, which have less clay in the subsoil than the Rhinebeck soil
- A few areas of Palms soils, which are organic to a depth of more than 16 inches and are in depressions
- A few areas where slopes are more than 8 percent

Soil Properties

Rhinebeck soil

Permeability: Moderate or moderately slow in the surface layer and slow in the subsoil and substratum

Available water capacity (40-inch profile): High

Soil reaction: Strongly acid through neutral in the surface layer, strongly acid through slightly alkaline in the upper part of the subsoil, and slightly acid through moderately alkaline in the lower part of the subsoil and in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or are in brushy or weedy fields. Some areas are used as woodland. A few areas are used for hay or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. This soil should be tilled at the proper moisture content because it is sticky when wet and can become compact and form a cloddy, crusty surface. Erosion is a hazard in the steeper areas and on long slopes. Conservation tillage and contour stripcropping reduce the hazard of erosion in the steeper areas. Growing cover crops and returning crop residue to the soil or regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings because of wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered as alternative sites for the construction of dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of wetness and the slow permeability in the subsoil and substratum. The adjacent soils that are better drained and more permeable should be considered when sites for conventional systems are selected. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action, wetness, and low strength, this unit is very limited as a site for local roads and streets. In some areas constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations. In many areas a better alternative would be to construct local roads and streets on nearby soils that are not so wet and clayey as this soil.

The land capability subclass is 3w.

65F—Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky

This unit consists of moderately deep and shallow, very steep, well drained and somewhat excessively drained soils on bedrock-controlled side slopes and hilltops. It is in the Adirondack foothills in the northeastern part of the county. It occurs at an elevation of more than 1,000 feet. These soils formed in glacial till. Boulders are on the surface, and 2 to 10 percent of the surface consists of rock outcrops. Areas of this map unit are mainly long and narrow. They are as much as 72 acres in size but typically are less than 49 acres. This unit is about 40 percent moderately deep, well drained Tunbridge soil; 35 percent shallow, somewhat excessively drained Lyman soil; and 25 percent other components. The Tunbridge and Lyman soils occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer
0 to 3 inches, black, highly decomposed plant material
3 to 8 inches, very dark gray fine sandy loam, 5 percent rock fragments

Subsurface layer
8 to 9 inches, gray fine sandy loam, 5 percent rock fragments

Subsoil
9 to 12 inches, dark reddish brown fine sandy loam, 10 percent rock fragments
12 to 14 inches, reddish brown gravelly fine sandy loam, 20 percent rock fragments
14 to 18 inches, yellowish red gravelly fine sandy loam, 25 percent rock fragments
18 to 30 inches, brown fine sandy loam, 25 percent rock fragments

Substratum
30 to 38 inches, brown fine sandy loam, 25 percent rock fragments

Bedrock
38+ inches, folded granite, schist, and gneiss bedrock

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer
0 to 5 inches, very dark gray channery loam, 20 percent rock fragments

Subsoil
5 to 15 inches, dark reddish brown channery sandy loam, 20 percent rock fragments

Bedrock
15+ inches, granite, schist, and gneiss bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Exposed bedrock on vertical faces
- Very deep, moderately well drained Skerry and very deep, somewhat poorly drained Adirondack soils on footsteps, along drainageways, and in small depressions
- Very deep, well drained Becket soils in some elevated areas
- Small areas of soils that have a sandy surface layer

Soil Properties

Tunbridge soil
Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Low through high
Soil reaction: Extremely acid through moderately acid in the surface layer, subsurface layer, and subsoil and strongly acid through slightly acid in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Lyman soil
Permeability: Moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly low or very low
Soil reaction: Extremely acid through moderately acid throughout the profile
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with brush and weeds.

Cropland.—This unit is not suited to cultivated crops because of the very steep slopes, the rock outcrops, and a severe hazard of erosion. The very steep slopes prohibit the use of most farm equipment.

Pasture.—In most areas this unit is not suited to pasture because of the very steep slopes, the rock outcrops, and a severe hazard of erosion. Excessive slope prohibits the use of equipment in most areas. Excluding livestock from the pasture during extended dry periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition.

Dwellings.—This unit is poorly suited to the construction of dwellings with basements because of excessive slope, depth to bedrock, and the rock outcrops in some areas. Extensive alterations are needed if dwellings are constructed on the unit. The adjacent soils that are less sloping and deeper to bedrock are better sites.

Septic tank absorption fields.—This unit is not suited to conventional septic tank absorption fields because of excessive slope, depth to bedrock, and the rock outcrops in some areas. Extensive alterations are required for conventional systems to function satisfactorily. The adjacent soils that are less sloping and deeper to bedrock may be better suited to conventional systems. State and local health codes prohibit the installation of conventional systems in most areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the very steep slopes and, in some areas, depth to bedrock and rock outcrops, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for removal of the bedrock can reduce the adverse effects of these costly limitations in some areas.

The land capability subclass is 7s.

68—Wakeville silt loam, rarely flooded

This very deep, nearly level, somewhat poorly drained soil is on low terraces and flood plains. It formed in recently deposited silty alluvium in the west-central part of the county. Areas of this map unit are mainly long and broad or irregular in shape. They are as much as 701 acres in size but typically are less than 365 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, dark grayish brown silt loam, 1 percent rock fragments

Subsoil
10 to 15 inches, brown silt loam with a few yellowish brown redoximorphic concentrations, 3 percent rock fragments
15 to 35 inches, dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations and common grayish brown redoximorphic depletions, 3 percent rock fragments

Substratum
35 to 72 inches, gray silt loam with common yellowish brown redoximorphic concentrations, 3 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Wenonah and moderately well drained Otego soils on the slightly higher parts of the landscape or on rises
- Poorly drained Wayland and Canandaigua soils in depressions along drainageways. These soils receive more runoff than the Wakeville soil. Some of the wettest included areas are designated by a symbol for wet spots.

- Some areas of Wakeville soils that have sandy material within a depth of 40 inches, especially east of Oneida Lake, along Fish Creek

Soil Properties

Wakeville soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through neutral in the surface layer and subsoil and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through June
Flooding: Rare, very brief, from November to May
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. A few areas are idle and are covered with brush and weeds. In areas that are artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Although the unit is susceptible to rare flooding, the flooding does not normally occur during the growing season. Some areas of this unit have been artificially drained. Surface compaction can occur if the fields are worked when the soil is wet. Wetness often delays planting or harvesting in years when the level of streams or the amount of rainfall is high during the planting or harvesting period. On the lower parts of some flood plains and in the more frequently flooded included areas, careful management is needed to prevent crop loss. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit.

Pasture.—This unit generally is suited to pasture. The flooding in some areas and wetness caused by the seasonal high water table commonly are limitations early in spring. Management that excludes livestock from the pasture during periods of flooding or wetness, proper stocking rates, and rotational grazing help to keep the pasture in good condition. Weed control and applications of lime and fertilizer increase forage yields. Because of the need for good water quality, these applications should not occur during periods of flooding. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—This unit is very limited as a site for dwellings because of the flooding and because of wetness caused by the seasonal high water table. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The higher adjacent soils that are not subject to flooding are better sites for dwellings.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Malfunctioning of the septic systems and the subsequent contamination of ground water and streams can occur during the wetter periods of the year. State and local health codes may prohibit the installation of conventional systems on this unit. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3w.

72—Canandaigua silt loam

This very deep, nearly level, poorly drained soil is in depressions on glacial lake plains and uplands. It formed in silty lacustrine deposits. Areas of this unit are mainly oblong, elongated, or irregular in shape. They are as much as 696 acres in size but typically are less than 65 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, very dark grayish brown silt loam

Subsoil

8 to 16 inches, reddish gray very fine sandy loam with many light yellowish brown and strong brown redoximorphic concentrations and common light brownish gray redoximorphic depletions

16 to 21 inches, reddish gray, firm silt loam with many dark yellowish brown and strong brown and common brown redoximorphic concentrations

21 to 34 inches, brown, firm silty clay loam with many dark yellowish brown redoximorphic concentrations

Substratum

34 to 40 inches, gray, firm silty clay loam with common light olive brown and many dark yellowish brown redoximorphic concentrations

40 to 72 inches, reddish brown, firm silt loam with common gray redoximorphic depletions and yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Canandaigua soil, Lamson soils, which have more sand and less silt than the Canandaigua soil
- Some areas of very poorly drained Canandaigua soils, which may be ponded from late fall to spring
- Somewhat poorly drained Niagara soils in the slightly higher areas
- Very poorly drained Palms soils, which have organic deposits 16 to 51 inches thick and are in some depressions and bogs
- Small areas of poorly drained Wayland soils, which are subject to flooding
- Chippewa and Lyons soils near areas of glacial till. Chippewa soils have a fragipan, and Lyons soils generally have more sand than the Canandaigua soil.

Soil Properties

Canandaigua soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): High
Soil reaction: Moderately acid through slightly alkaline in the surface layer and subsoil and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from November through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. A few areas are used for pasture or hay.

Cropland.—This unit is poorly suited to cultivated crops because of wetness. Artificially drained areas are suited to many crops. Returning crop residue to the soil and regularly adding other organic material can help to maintain good tilth and the content of organic matter. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is only moderately suited to pasture because of wetness. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. Weed and brush control, applications of fertilizer, and applications of lime in some areas can increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better suited soils in the higher nearby areas should be considered when sites for dwellings are selected. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged periods of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils should be selected because extensive alterations would be required to overcome this limitation. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on the unit.

Local roads and streets.—Because of wetness caused by the seasonal high water table and because of the potential for frost action, this unit is very limited as a site for local roads and streets. Additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w.

74B—Berkshire fine sandy loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on side slopes, on broad plains in the uplands, and on hilltops. It is mainly in the Adirondack foothills in the northeastern part of the county. It occurs at an elevation of more than 1,000 feet. The soil formed in ablation till. Areas of this map unit are mainly somewhat oval, elongated, or irregular in shape. They range from 5 to 507 acres in size and typically are less than 155 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, moderately decomposed root and leaf litter
1 to 6 inches, dark brown fine sandy loam, 5 percent rock fragments

Subsurface layer
6 to 8 inches, reddish gray sandy loam, 5 percent rock fragments

Subsoil
8 to 9 inches, dark reddish brown sandy loam, 10 percent rock fragments
9 to 14 inches, dark brown sandy loam, 10 percent rock fragments
14 to 21 inches, dark yellowish brown sandy loam, 10 percent rock fragments

Substratum
21 to 72 inches, brown gravelly sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Becket soils and moderately well drained Skerry soils, both of which have a firm layer in the subsoil. These soils make up about 15 percent of the unit.
- Excessively drained Adams and moderately well drained Croghan soils, which formed in sandy deltaic or glaciofluvial deposits
- Berkshire soils, which have stones and boulders on the surface, particularly where they occur in close proximity to Becket soils
- A few small areas where slopes are more than 8 percent

Soil Properties

Berkshire soil
Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through moderately acid throughout the profile
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are idle and are covered with brush or weeds. A few areas are used for pasture or hay. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. In a few areas stones on the surface interfere with tillage. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Few or no limitations affect the installation of conventional septic tank absorption fields on this unit.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2e.

74C—Berkshire fine sandy loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on side slopes, on broad plains in the uplands, and on hilltops. It is in the Adirondack foothills in the northeastern part of the county. It occurs at an elevation of more than 1,000 feet. The soil formed in ablation till. Areas of this map unit are mainly elongated or irregular in shape. They range from 7 to 152 acres in size and typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, moderately decomposed root and leaf litter
1 to 6 inches, dark brown fine sandy loam, 5 percent rock fragments

Subsurface layer
6 to 8 inches, reddish gray sandy loam, 5 percent rock fragments

Subsoil
8 to 9 inches, dark reddish brown sandy loam, 10 percent rock fragments
9 to 14 inches, dark brown sandy loam, 10 percent rock fragments
14 to 21 inches, dark yellowish brown sandy loam, 10 percent rock fragments

Substratum
21 to 72 inches, brown gravelly sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Becket soils and moderately well drained Skerry soils, both of which have a firm layer in the subsoil. These soils make up about 15 percent of the unit.
- Excessively drained Adams and moderately well drained Croghan soils, which formed in sandy deltaic or glaciofluvial deposits
- Berkshire soils that have stones and boulders on the surface, particularly where they occur in close proximity to Becket soils
- A few small areas where slopes are more than 15 percent

Soil Properties

Berkshire soil
Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through moderately acid throughout the profile
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are idle and are covered with brush or weeds. A few areas are used for pasture or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope somewhat limits the use of this unit as a site for conventional septic tank absorption fields. Installing diversions that intercept water from the higher adjacent areas helps to keep water away from the absorption fields. The absorption fields should be installed along the contour of the slope and in the more nearly level areas.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing them on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

75—Lamson fine sandy loam

This very deep, nearly level, poorly drained soil is on glacial lake plains, mainly in the southern and west-central parts of the county. It formed in water-sorted sediments dominated by very fine sand and fine sand. Generally, areas of this map unit are roughly oblong, elongated, or irregular in shape. They are as much as 935 acres in size but typically are less than 90 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark gray fine sandy loam

Subsurface layer

9 to 13 inches, brown loamy fine sand with many light gray and common very dark gray redoximorphic depletions and many brown, reddish brown, and yellowish red redoximorphic concentrations

Subsoil

13 to 18 inches, dark brown fine sandy loam with many reddish gray redoximorphic depletions and a few yellowish brown redoximorphic concentrations

18 to 22 inches, brown fine sandy loam with thin lamellae of sandy clay loam and a few strong brown redoximorphic concentrations
22 to 36 inches, pinkish gray loamy fine sand with thin lamellae of silty clay loam and many gray redoximorphic depletions

Substratum

36 to 72 inches, light brownish gray loamy fine sand with thin lamellae of silty clay loam, slightly effervescent

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Lamson soil, Canandaigua soils, which have more silt and less sand than the Lamson soil
- In level and broad depressions, very poorly drained Lamson soils that have a mucky surface layer
- Spots of very poorly drained Palms soils in the deeper depressions and in bogs. These soils have organic deposits that are 16 to 51 inches thick.
- Somewhat poorly drained Minoa soils in the slightly higher areas
- Somewhat poorly drained Niagara soils, which have more silt than the Lamson soil
- Wareham soils, which have coarser sand particles than the Lamson soil

Soil Properties

Lamson soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through slightly alkaline in the surface layer, the subsurface layer, and the upper part of the subsoil and slightly acid through moderately alkaline in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from November through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of prolonged periods of wetness. Artificially drained areas are suited to many crops. Wetness limits the use of machinery and access to the fields. At the proper moisture content, this soil may be productive for many crops. The best suited crops are those that are water tolerant. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness. Grazing during wet periods can cause surface compaction. Also, it can damage seedlings and thus result in poor-quality forage. In partially drained areas, the forage species that can withstand a prolonged high water table should be planted and proper stocking rates and rotational grazing are needed.

Dwellings.—Because of seasonal wetness, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils should be selected because extensive alterations would be required to overcome this limitation. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Wetness and the potential for frost action are the main limitations if this unit is used as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas. A better alternative, however, is to construct the roads and streets on nearby soils that are not so wet as this soil. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w.

76—Niagara silt loam

This very deep, nearly level, somewhat poorly drained soil is on lake plains. It formed in medium textured or moderately fine textured deposits. Areas of this map unit are mainly elongated or irregular in shape. They are as much as 1,546 acres in size but typically are less than 65 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 11 inches, very dark grayish brown silt loam

Subsurface layer

11 to 13 inches, brown fine sandy loam with a few yellowish brown redoximorphic concentrations and reddish brown redoximorphic depletions

Subsoil

13 to 21 inches, reddish brown silt loam with a few reddish gray redoximorphic depletions and common strong brown redoximorphic concentrations

Substratum

21 to 26 inches, reddish brown very fine sandy loam with common strong brown and brown redoximorphic concretions and a few grayish brown redoximorphic depletions

26 to 32 inches, brown very fine sandy loam with a few grayish brown redoximorphic depletions and many strong brown redoximorphic concentrations

32 to 72 inches, reddish brown silt loam with common brown and a few olive gray redoximorphic depletions

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- Moderately well drained Collamer soils on the slightly higher parts of the landscape
- Rhinebeck soils in landscape positions similar to those of the Niagara soil. These soils have a higher content of clay than the Niagara soil.
- In the southern and west-central parts of the county, small areas of Minoa soils, which are coarser textured than the Niagara soil
- A few areas where slopes are more than 3 percent

Soil Properties

Niagara soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and subsurface layer, moderately acid through slightly alkaline in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture, hay, or cultivated crops or are in brushy and weedy fields. Some areas are used as woodland. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings because of wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered as alternative sites for the construction of dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of wetness. The better drained adjacent soils should be considered as alternative sites for conventional systems. In some areas drains installed upslope from the absorption field and diversions that intercept runoff from the higher parts of the landscape can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, low strength, and wetness are the main limitations if this unit is used as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

77A—Collamer silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on lake plains and glacial landforms mantled by lacustrine sediments. It formed in silty lacustrine sediments. Areas of this unit are mainly elongated or irregular in shape. They are as much as 43 acres in size but typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 15 inches, reddish brown silt loam, 5 percent rock fragments
15 to 21 inches, reddish brown, firm silt loam with a few reddish gray redoximorphic depletions and reddish brown redoximorphic concentrations
21 to 29 inches, brown, firm silty clay loam with common strong brown redoximorphic concentrations and a few reddish gray redoximorphic depletions
29 to 43 inches, brown, firm silty clay loam

Substratum
43 to 72 inches, brown, firm silt loam, slightly effervescent in the lower part

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Niagara and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- On the same landforms as the Collamer soil, Schoharie soils, which have a higher content of clay in the subsoil and substratum than the Collamer soil
- Somewhat poorly drained Appleton soils in a few areas dominated by glacial till

Soil Properties

Collamer soil
Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are covered with brush and weeds. A few areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Growing winter cover crops and returning crop residue to the soil or regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the restricted permeability in the subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drainage pipe installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2w.

77B—Collamer silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on lake plains and glacial landforms mantled by lacustrine sediments. It formed in silty lacustrine sediments. Areas of this unit are mainly elongated or irregular in shape. They range from 5 to 187 acres in size and typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil

10 to 15 inches, reddish brown silt loam, 5 percent rock fragments
15 to 21 inches, reddish brown, firm silt loam with a few reddish gray redoximorphic depletions and reddish brown redoximorphic concentrations
21 to 29 inches, brown, firm silty clay loam with common strong brown redoximorphic concentrations and a few reddish gray redoximorphic depletions
29 to 43 inches, brown, firm silty clay loam

Substratum

43 to 72 inches, brown, firm silt loam, slightly effervescent in the lower part

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Niagara and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- On the same landforms as the Collamer soil, Schoharie soils, which have a higher content of clay in the subsoil and substratum than the Collamer soil
- Somewhat poorly drained Appleton soils in a few areas dominated by glacial till
- A few areas where slopes are more than 8 percent

Soil Properties

Collamer soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): High

Soil reaction: Strongly acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and slightly acid through moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are covered with brush and weeds. A few areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the restricted permeability in the subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drainage pipe installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

77C—Collamer silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on lake plains and glacial landforms mantled by lacustrine sediments. It formed in silty lacustrine sediments. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 61 acres in size but typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 15 inches, reddish brown silt loam, 5 percent rock fragments
15 to 21 inches, reddish brown, firm silt loam with a few reddish gray redoximorphic depletions and reddish brown redoximorphic concentrations
21 to 29 inches, brown, firm silty clay loam with common strong brown redoximorphic concentrations and a few reddish gray redoximorphic depletions
29 to 43 inches, brown, firm silty clay loam

Substratum
43 to 72 inches, brown, firm silt loam, slightly effervescent in the lower part

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Niagara and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- On the same landforms as the Collamer soil, Schoharie soils, which have a higher content of clay in the subsoil and substratum than the Collamer soil
- Somewhat poorly drained Appleton soils in a few areas dominated by glacial till
- A few areas where slopes are more than 15 percent

Soil Properties

Collamer soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. A few areas are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, excessive slope, and the restricted permeability in the subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drainage pipe installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Installing the absorption fields along the contour of the slope and enlarging the absorption fields or the trenches below the distribution lines can increase the rate at which the soil absorbs effluent.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation.

The land capability subclass is 3e.

77D—Collamer silt loam, 15 to 25 percent slopes

This very deep, moderately steep, moderately well drained soil is on lake plains and glacial landforms mantled by lacustrine sediments. It formed in silty lacustrine sediments. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They range from 5 to 78 acres in size and typically are less than 36 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 15 inches, reddish brown silt loam, 5 percent rock fragments
15 to 21 inches, reddish brown, firm silt loam with a few reddish gray redoximorphic depletions and reddish brown redoximorphic concentrations
21 to 29 inches, brown, firm silty clay loam with common strong brown redoximorphic concentrations and a few reddish gray redoximorphic depletions
29 to 43 inches, brown, firm silty clay loam

Substratum
43 to 72 inches, brown, firm silt loam, slightly effervescent in the lower part

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Niagara and poorly drained Canandaigua soils on the lower parts of the landscape and in depressions
- On the same landforms as the Collamer soil, Schoharie soils, which have a higher content of clay in the subsoil and substratum than the Collamer soil

Soil Properties

Collamer soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): High

Soil reaction: Strongly acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and slightly acid through moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, weed control, and occasional mowing help to control weeds and brush and increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and surface mulch and other temporary erosion-control measures are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping, more permeable, and better drained are better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope and the potential for frost action, this unit is very limited as a site for local roads and streets. The roads and streets should be constructed along the contour of the slope, and erosion-control measures are needed during construction in some areas. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost action.

The land capability subclass is 4e.

78A—Arkport fine sandy loam, 0 to 3 percent slopes

This very deep, nearly level, well drained soil is on glacial outwash plains and lake plains. It formed in sandy glaciofluvial or deltaic deposits having a high content of fine sand and very fine sand. Generally, areas of this map unit are roughly oval or irregular in shape. They are as much as 180 acres in size but typically are less than 31 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown fine sandy loam

Subsurface layer and subsoil
7 to 42 inches, dark yellowish brown loamy fine sand (E part) with lamellae of dark brown fine sandy loam (B part)

Substratum
42 to 72 inches, brown fine sand

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Arkport soil, Unadilla soils, which have more silt and less sand than the Arkport soil
- Somewhat excessively drained Howard soils, which have more gravel in the subsoil than the Arkport soil
- Somewhat poorly drained Minoa and poorly drained Lamson soils in depressions and the more nearly level areas. These soils formed in sandy lacustrine or deltaic deposits.

Soil Properties

Arkport soil

Permeability: Moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the subsurface layer and subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6.0 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or are idle and are covered with brush and weeds. A few areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Cover crops, crop rotations, conservation tillage, and the return of crop residue to the soil increase the available water capacity and the content of organic matter and help to maintain good tilth.

Pasture.—This unit is well suited to pasture. In some areas droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Overgrazing decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Few or no limitations affect the installation of conventional septic tank absorption fields on this unit.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2s.

78B—Arkport fine sandy loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on glacial outwash plains and lake plains. It formed in sandy glaciofluvial or deltaic deposits having a high content of fine sand and very fine sand. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 80 acres in size but typically are less than 31 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown fine sandy loam

Subsurface layer and subsoil
7 to 42 inches, dark yellowish brown loamy fine sand (E part) with lamellae of dark brown fine sandy loam (B part)

Substratum
42 to 72 inches, brown fine sand

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Arkport soil, Unadilla soils, which have more silt and less sand than the Arkport soil
- Somewhat excessively drained Howard soils, which have more gravel in the subsoil than the Arkport soil

• Somewhat poorly drained Minoa and poorly drained Lamson soils in depressions and the more nearly level areas. These soils formed in sandy lacustrine or deltaic deposits.

Soil Properties

Arkport soil

Permeability: Moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the subsurface layer and subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6.0 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or are idle and are covered with brush and weeds. A few areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Cover crops, crop rotations, conservation tillage, and the return of crop residue to the soil increase the available water capacity and the content of organic matter and help to maintain good tilth.

Pasture.—This unit is well suited to pasture. In some areas droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Overgrazing decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Few or no limitations affect the installation of conventional septic tank absorption fields on this unit.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2s.

78C—Arkport fine sandy loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on glacial outwash plains and lake plains. It formed in sandy glaciofluvial or deltaic deposits having a high content of fine sand and very fine sand. Areas of this map unit are mainly long and narrow or irregular in shape. They are as much as 26 acres in size but typically are less than 12 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown fine sandy loam

Subsurface layer and subsoil
7 to 42 inches, dark yellowish brown loamy fine sand (E part) with lamellae of dark brown fine sandy loam (B part)

Substratum
42 to 72 inches, brown fine sand

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Arkport soil, Unadilla soils, which have more silt and less sand than the Arkport soil
- Somewhat excessively drained Howard soils, which have more gravel in the subsoil than the Arkport soil
- Somewhat poorly drained Minoa and poorly drained Lamson soils in depressions and the more nearly level areas. These soils formed in sandy lacustrine or deltaic deposits.
- Areas where slopes are more than 15 percent

Soil Properties

Arkport soil

Permeability: Moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the subsurface layer and subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6.0 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. Some areas are used for hay or pasture. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Overgrazing decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. Designing the dwellings so that they conform to the natural slope of the land and land shaping and grading help to overcome the slope. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Excessive slope somewhat limits the use of this unit as a site for septic tank absorption fields. Land shaping or grading and installing the distribution lines along the contour of the land help to overcome slope.

Local roads and streets.—The potential for frost action and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost action in some areas. The roads should be designed so that they follow contour of the slope as much as possible on this strongly sloping soil.

The land capability subclass is 3e.

79A—Roundabout silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is in shallow depressions and slightly concave areas on lake plains and terraces above the flood plains in major stream valleys. The soil occurs mostly in the northeastern part of the county, at an elevation of more than 1,000 feet. It formed in deposits with a high content of silt and very fine sand. Areas of this map unit are mainly elongated, somewhat oval, or irregular in shape. They are as much as 103 acres in size but typically are less than 33 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 10 inches, very dark grayish brown silt loam

Subsoil

10 to 14 inches, dark yellowish brown and pale brown silt loam

14 to 20 inches, grayish brown, firm very fine sandy loam with a few dark yellowish brown redoximorphic concentrations

20 to 35 inches, grayish brown silt loam with common dark grayish brown redoximorphic depletions and many yellowish brown and dark yellowish brown redoximorphic concentrations

Substratum

35 to 72 inches, dark grayish brown silt loam with common dark yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Salmon and moderately well drained Nicholville soils on the higher parts of the landscape
- Some areas of poorly drained Roundabout soils
- Spots of somewhat excessively drained Adams and somewhat poorly drained Naumburg soils in areas dominated by sandy glacial outwash

- A few spots of Fluvaquents on the low parts of the flood plains, adjacent to rivers and streams
- Well drained Bice soils in a few of the higher spots at the contact with glacial till landforms
- A few small areas where slopes are more than 3 percent

Soil Properties

Roundabout soil

Permeability: Moderate or moderately slow in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): High
Soil reaction: Very strongly acid through slightly acid in the surface layer and subsoil and moderately acid through neutral in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used as woodland or are covered with brush or weeds. A few areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. If artificially drained, this soil is suited to many of the forage and field crops commonly grown in the county. Wetness can delay tillage in spring. Surface compaction and crusting or clodding can occur if the soil is cultivated when wet. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas of the unit, however, wetland regulations may prohibit or restrict alteration of drainage. Growing winter cover crops, returning crop residue to the soil, and regular adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture, especially in the drier areas. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. Enlarging the absorption field may help to overcome the adverse effects of restricted permeability in the substratum. Better suited soils in the higher areas should be considered. State or local health codes may prohibit use of this unit as a site for conventional septic tank absorption fields in some areas. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas. In some of the wettest areas, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before roads and streets are built on the poorly drained included soils in this unit.

The land capability subclass is 3w.

79B—Roundabout silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is in shallow depressions and slightly concave areas on lake plains and terraces above the flood plains in major stream valleys. The soil occurs mostly in the northeastern part of the county, at an elevation of more than 1,000 feet. It formed in deposits with a high content of silt and very fine sand. Areas of this map unit are mainly oblong or irregular in shape. They are as much as 36 acres in size but typically are less than 11 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 10 inches, very dark grayish brown silt loam

Subsoil

10 to 14 inches, dark yellowish brown and pale brown silt loam
14 to 20 inches, grayish brown, firm very fine sandy loam with a few dark yellowish brown redoximorphic concentrations
20 to 35 inches, grayish brown silt loam with common dark grayish brown redoximorphic depletions and many yellowish brown and dark yellowish brown redoximorphic concentrations

Substratum

35 to 72 inches, dark grayish brown silt loam with common dark yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Salmon and moderately well drained Nicholville soils on the higher parts of the landscape
- Some areas of poorly drained Roundabout soils
- Spots of somewhat excessively drained Adams and somewhat poorly drained Naumburg soils in areas dominated by sandy glacial outwash
- A few spots of Fluvaquents on the low parts of the flood plains, adjacent to rivers and streams

- Well drained Bice soils in a few of the higher spots at the contact with glacial till landforms
- A few small areas where slopes are more than 8 percent

Soil Properties

Roundabout soil

Permeability: Moderate or moderately slow in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): High
Soil reaction: Very strongly acid through slightly acid in the surface layer and subsoil and moderately acid through neutral in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. A few areas are used for pasture, hay, or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. If artificially drained, this soil is suited to many of the forage and field crops commonly grown in the county. Wetness can delay tillage in spring. Surface compaction and crusting or clodding can occur if the soil is cultivated when wet. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas of the unit, however, wetland regulations may prohibit or restrict alteration of drainage. Growing winter cover crops, returning crop residue to the soil, and regular adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture, especially in the drier areas. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. Enlarging the absorption field may help to overcome the adverse effects of restricted permeability in the substratum. Better suited soils in the higher areas should be considered. State or local health codes may prohibit use of this unit as a site for conventional septic tank absorption fields in some areas. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in some areas. In some of the wettest areas, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before roads and streets are built on the poorly drained included soils in this unit.

The land capability subclass is 3w.

81A—Covert loamy sand, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is in slight depressions on broad sandy plains and along drainageways on uplands. It is primarily on the Oneida Lake Plain, at an elevation of less than 1,000 feet. Areas of this map unit are mainly elongated, oblong, or irregular in shape. They are as much as 307 acres in size but typically are less than 155 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark gray loamy sand

Subsoil
7 to 13 inches, brown sand
13 to 21 inches, strong brown sand
21 to 36 inches, yellowish brown sand with common light brownish gray redoximorphic depletions and common yellow red redoximorphic concentrations

Substratum
36 to 72 inches, brown fine sand with common yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas of Covert soils that have more sand in the surface layer
- Excessively drained Windsor soils in elevated areas
- Somewhat poorly drained Wareham soils in some depressions and along drainageways
- Small areas of poorly drained Jebavy soils, which have a firm, sandy layer in the subsoil
- A few small areas of Castile soils, which have pebbles in the subsoil and substratum
- In some wooded areas, Covert soils that have a thin organic surface layer
- In the town of Trenton, a few spots of Covert soils at an elevation of more than 1,000 feet
- A few small areas where slopes are more than 3 percent

Soil Properties

Covert soil

Permeability: Rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Very strongly acid through neutral in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, very strongly acid through neutral in the lower part of the subsoil, and strongly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from November through April
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is well suited to cultivated crops in most areas. Wetness caused by the seasonal high water table may be a problem during extended wet periods in some areas and may delay planting or harvesting. Also, droughtiness commonly is a limitation during extended dry periods and in the latter part of the growing season. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and tilth.

Pasture.—This unit is well suited to pasture. In some areas, however, early season grazing may be delayed by wetness in spring. Also, droughtiness may be a limitation during extended dry periods and in the latter part of the grazing season. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements and somewhat limited as a site for dwellings without basements. Installing tile drains around the footings of the dwellings can reduce the wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas also reduce the wetness. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by rapid permeability in the substratum and because of a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are deeper to the water table or have a better filtering capacity should be considered in the selection of suitable sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness in some areas. State and local health codes may affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, this unit is somewhat limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can help to reduce the adverse effects of this limitation in most areas.

The land capability subclass is 2w.

81B—Covert loamy sand, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is in slight depressions on broad sandy plains and along drainageways on uplands. It is primarily on the Oneida Lake Plain, at an elevation of less than 1,000 feet. Areas of this map unit are mainly elongated, elliptical, or irregular in shape. They are as much as 212 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark gray loamy sand

Subsoil
7 to 13 inches, brown sand
13 to 21 inches, strong brown sand
21 to 36 inches, yellowish brown sand with common light brownish gray redoximorphic depletions and common yellow red redoximorphic concentrations

Substratum
36 to 72 inches, brown fine sand with common yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas of Covert soils that have more sand in the surface layer
- Excessively drained Windsor soils in elevated areas
- Somewhat poorly drained Wareham soils in some depressions and along drainageways
- Small areas of poorly drained Jebavy soils, which have a firm, sandy layer in the subsoil
- A few small areas of Castile soils, which have pebbles in the subsoil and substratum
- In some wooded areas, Covert soils that have a thin organic surface layer
- In the town of Trenton, a few spots of Covert soils at an elevation of more than 1,000 feet
- Areas where slopes are more than 8 percent

Soil Properties

Covert soil

Permeability: Rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Very strongly acid through neutral in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, very strongly acid through neutral in the lower part of the subsoil, and strongly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from November through April

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are idle and are covered with brush or weeds. A few areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is well suited to cultivated crops in most areas. Wetness caused by the seasonal high water table may be a problem during extended wet periods in some areas and may delay planting or harvesting. Also, droughtiness commonly is a limitation during extended dry periods and in the latter part of the growing season. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and tilth.

Pasture.—This unit is well suited to pasture. In some areas, however, early season grazing may be delayed by wetness in spring. Also, droughtiness may be a limitation during extended dry periods and in the latter part of the grazing season. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements and somewhat limited as a site for dwellings without basements. Installing tile drains around the footings of the dwellings can reduce the wetness. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas also reduce the wetness. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by rapid permeability in the substratum and because of a poor filtering capacity, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are deeper to the water table or have a better filtering capacity should be considered in the selection of suitable sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness in some areas. State and local health codes may affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, this unit is somewhat limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can help to reduce the adverse effects of this limitation in most areas.

The land capability subclass is 2w.

90A—Windsor loamy fine sand, 0 to 3 percent slopes

This very deep, nearly level, excessively drained soil is on broad sandy outwash plains and terraces. It occurs dominantly on the Oneida Lake Plain. It formed in glaciofluvial or water-deposited sandy material derived principally from granite and sandstone. Areas of this unit are mainly elongated, broad, or irregular in shape. They are as much as 991 acres in size but typically are less than 105 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, very dark grayish brown loamy fine sand
2 to 7 inches, brown loamy fine sand

Subsoil
7 to 15 inches, strong brown loamy fine sand
15 to 29 inches, yellowish brown fine sand

Substratum
29 to 54 inches, pale brown fine sand
54 to 72 inches, light brown fine sand with a few yellowish brown mottles

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Windsor soil but have a loamy surface layer rather than a sandy one
- Moderately well drained Covert and somewhat poorly drained Wareham soils in some depressions and along drainageways
- A few spots of poorly drained Jebavy soils, which have an ortstein layer
- A few areas of somewhat excessively drained Chenango and Alton soils on kames, eskers, or terraces. These soils have more gravel than the Windsor soil.
- A few small areas where slopes are more than 3 percent

Soil Properties

Windsor soil

Permeability: Rapid or very rapid throughout the mineral soil
Available water capacity (40-inch profile): Generally low but moderate in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture, hay, or cultivated crops. A few areas are in brushy or weedy fields. Sand pits are in some spots.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. Droughtiness and low natural fertility are the main limitations. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by rapid or very rapid permeability and because of a poor filtering capacity in most areas, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity may result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered when suitable sites are selected. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Few or no limitations affect the use of this unit as a site for local roads and streets.

The land capability subclass is 3s.

90B—Windsor loamy fine sand, 3 to 8 percent slopes

This very deep, gently sloping, excessively drained soil is on broad sandy outwash plains and terraces. It occurs dominantly on the Oneida Lake Plain. It formed in glaciofluvial or water-deposited sandy material derived principally from granite and sandstone. Areas of this map unit are mainly broad or irregular in shape. They are as much as 1,664 acres in size but typically are less than 160 acres.

Surface layer
0 to 2 inches, very dark grayish brown loamy fine sand
2 to 7 inches, brown loamy fine sand

Subsoil
7 to 15 inches, strong brown loamy fine sand
15 to 29 inches, yellowish brown fine sand

Substratum
29 to 54 inches, pale brown fine sand
54 to 72 inches, light brown fine sand with a few yellowish brown mottles

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Windsor soil but have a loamy surface layer rather than a sandy one
- Moderately well drained Covert and somewhat poorly drained Wareham soils in some depressions and along drainageways
- A few spots of poorly drained Jebavy soils, which have an ortstein layer
- A few areas of somewhat excessively drained Chenango and Alton soils on kames, eskers, or terraces. These soils have more gravel than the Windsor soil.
- A few small areas where slopes are more than 8 percent

Soil Properties

Windsor soil

Permeability: Rapid or very rapid throughout the mineral soil
Available water capacity (40-inch profile): Generally low but moderate in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture, hay, or cultivated crops. A few areas are in brushy or weedy fields. Sand pits are in some spots.

Cropland.—This unit is suited to most of the forage and cultivated crops commonly grown in the county. Droughtiness and low natural fertility are the main limitations. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. Conservation tillage, winter cover crops, and the return of crop residue to the soil or regular additions of other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit. In some areas, however, the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by rapid or very rapid permeability and because of a poor filtering capacity in most areas, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity may result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered when suitable sites are selected. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Few or no limitations affect the use of this unit as a site for local roads and streets.

The land capability subclass is 3s.

90C—Windsor loamy fine sand, 8 to 15 percent slopes

This very deep, strongly sloping, excessively drained soil is on broad sandy outwash plains and terraces. It occurs dominantly on the Oneida Lake Plain. It formed in glaciofluvial or water-deposited sandy material derived principally from granite and sandstone. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 543 acres in size but typically are less than 108 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, very dark grayish brown loamy fine sand
2 to 7 inches, brown loamy fine sand

Subsoil
7 to 15 inches, strong brown loamy fine sand
15 to 29 inches, yellowish brown fine sand

Substratum
29 to 54 inches, pale brown fine sand
54 to 72 inches, light brown fine sand with a few yellowish brown mottles

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Soils that are similar to the Windsor soil but have a loamy surface layer rather than a sandy one
- Moderately well drained Covert and somewhat poorly drained Wareham soils in some depressions and along drainageways
- A few spots of poorly drained Jebavy soils, which have an ortstein layer
- A few areas of somewhat excessively drained Chenango and Alton soils on kames, eskers, or terraces. These soils have more gravel than the Windsor soil.
- A few small areas where slopes are more than 15 percent

Soil Properties

Windsor soil
Permeability: Rapid or very rapid throughout the mineral soil
Available water capacity (40-inch profile): Generally low but moderate in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are in brushy or weedy fields. A few areas used for pasture, hay, or cultivated crops. Sand pits are in some spots.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. Wind erosion is a hazard, so the surface must be stabilized with a vegetative cover. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of seepage caused by rapid or very rapid permeability and because of a poor filtering capacity in most areas, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity may result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered when suitable sites are selected. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope somewhat limits the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and installing erosion-control practices at the time of road construction can reduce the adverse effects of this limitation.

The land capability subclass is 4e.

90D—Windsor loamy fine sand, 15 to 25 percent slopes

This very deep, moderately steep, excessively drained soil is on the side slopes of dissected sandy outwash plains and terraces. It occurs dominantly on the Oneida Lake Plain. It formed in sandy glaciofluvial material derived principally from granite and sandstone. Areas of this map unit are mainly long and narrow or irregular in shape. They are as much as 216 acres in size but typically are less than 80 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, very dark grayish brown loamy fine sand
2 to 7 inches, brown loamy fine sand

Subsoil
7 to 15 inches, strong brown loamy fine sand
15 to 29 inches, yellowish brown fine sand

Substratum
29 to 54 inches, pale brown fine sand
54 to 72 inches, light brown fine sand with a few yellowish brown mottles

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that are similar to the Windsor soil but have a loamy surface layer rather than a sandy one

- Moderately well drained Covert soils in some depressions and along drainageways
- A few areas of somewhat excessively drained Chenango and Alton soils on kames, eskers, or terraces. These soils have more gravel than the Windsor soil.
- A few small areas where slopes are more than 25 percent

Soil Properties

Windsor soil

Permeability: Rapid or very rapid throughout the mineral soil
Available water capacity (40-inch profile): Generally low but moderate in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay. A few areas are covered with brush and weeds. Sand pits are in some spots.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Doughtiness may be a problem during extended dry periods. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness is a problem late in the growing season. Care must be taken to prevent overgrazing during this period. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of excessive slope, seepage caused by rapid or very rapid permeability, and a poor filtering capacity in most areas, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity may result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity and are less sloping may be better suited to conventional systems. In most areas of this unit, specially designed systems are needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and surface mulching are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 6e.

90E—Windsor loamy fine sand, 25 to 55 percent slopes

This very deep, steep and very steep, excessively drained soil is on the side slopes of dissected sandy outwash plains and terraces. It occurs dominantly on the Oneida Lake Plain, but is in scattered areas throughout the county. It formed in sandy glaciofluvial deposits derived principally from granite and sandstone. Areas of this map unit are mainly long and narrow. They are as much as 276 acres in size but typically are less than 90 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 2 inches, very dark grayish brown loamy fine sand
2 to 7 inches, brown loamy fine sand

Subsoil
7 to 15 inches, strong brown loamy fine sand
15 to 29 inches, yellowish brown fine sand

Substratum
29 to 54 inches, pale brown fine sand
54 to 72 inches, light brown fine sand with a few yellowish brown mottles

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat excessively drained Chenango and Alton soils on kames, eskers, or terraces. These soils have more gravel than the Windsor soil.
- A few areas of soils that are similar to the Windsor soil but have a loamy surface layer rather than a sandy one
- Spots of moderately well drained Covert soils in some depressions and along drainageways.

Soil Properties

Windsor soil
Permeability: Rapid or very rapid throughout the mineral soil
Available water capacity (40-inch profile): Generally low but moderate in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with brush and weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Droughtiness results in moisture stress in plants late in the growing season. Excessive slope severely limits the operation of equipment.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful during pasture renovation in some areas. Excessive slope limits the safe operation of farm machinery. Droughtiness may be a problem late in the growing season. Care must be taken to prevent overgrazing during this period.

Dwellings.—Excessive slope is the main limitation if this unit is used as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep and very steep slopes. The adjacent soils that are less sloping are better suited to dwellings and should be considered as alternative sites. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of excessive slope, seepage caused by rapid or very rapid permeability, and a poor filtering capacity in most areas, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that have a better filtering capacity and are less sloping may be better suited to conventional systems. The poor filtering capacity may result in the contamination of ground water and of nearby water bodies. In most areas of this unit, specially designed systems are needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they run along the contour of the slope or around areas of this unit. Erosion-control structures and surface mulching are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

92—Napoleon peat

This very deep, nearly level, very poorly drained soil is in bogs and other depressions. It occurs mainly between Fish Creek and Wood Creek on the “Rome Sand Plain,” which is within the Oneida Lake Plain. It formed in more than 51 inches of organic deposits containing partially decomposed woody and herbaceous material. Areas of this map unit are mainly irregular in shape. They are as much as 217 acres in size but typically are less than 12 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier
0 to 10 inches, pale brown peat

Subsurface tier
10 to 40 inches, black mucky peat

Bottom tier
40 to 60 inches, dark reddish brown mucky peat

Mineral substratum
60 to 72 inches, pale brown loamy fine sand

Included Areas

Included areas make up about 15 percent of the unit. They are as much as 3 acres in size. They are as follows—
- Palms and Adrian soils, which formed in organic deposits that are 16 to 51 inches deep over mineral material
- On the same landforms as the Napoleon soil, Carlisle soils in areas where the organic deposits are more decomposed
- Spots of somewhat poorly drained Wareham, moderately well drained Covert, and excessively drained Windsor soils on the higher knolls. These are sandy soils without significant deposits of organic material.
- Spots of poorly drained Jebavy soils, which have a firm, sandy layer (ortstein) in the subsoil

Soil Properties

Napoleon soil
Permeability: Moderate or moderately rapid throughout the organic deposits
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid throughout the organic deposits
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from September through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas have a cover of water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit. Subsidence and wind erosion are problems in areas that are artificially drained. Maintaining a high water table between growing seasons may minimize subsidence. Cover crops and windbreaks help to control wind erosion.

Pasture.—This unit is unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

94—Naumburg loamy sand

This very deep, nearly level, somewhat poorly drained and poorly drained soil is in depressions, along drainageways, and in concave areas on low-lying sand plains. It occurs mostly in the northeastern part of the county, at an elevation of more than 1,000 feet. The soil formed in sandy deltaic or glaciofluvial deposits derived mainly from acidic metamorphic rocks. This unit is about 50 percent somewhat poorly drained Naumburg soil, 35 percent poorly drained Naumburg soil, and 15 percent other soils. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 311 acres in size but typically are less than 100 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, black, highly decomposed plant material

Subsurface layer
4 to 12 inches, grayish brown loamy sand

Subsoil
12 to 15 inches, dark reddish brown sand with common dusky red redoximorphic depletions
15 to 20 inches, strong brown sand with many dark reddish brown redoximorphic concentrations
20 to 25 inches, dark yellowish brown sand

Substratum
25 to 72 inches, grayish brown loamy fine sand

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- In landscape positions similar to those of the Naumburg soil, Adirondack soils, which are loamy
- In the higher convex areas, spots of moderately well drained Croghan and somewhat excessively drained Adams soils
- In some of the deeper depressions, very poorly drained Dawson soils, which have organic deposits 16 to 51 inches thick
- In depressions, small areas of very poorly drained Greenwood soils, which have organic deposits more than 51 inches thick
- Small areas where slopes are more than 3 percent

Soil Properties

Naumburg soil
Permeability: Moderately rapid in the surface layer and subsurface layer and rapid in the subsoil and substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high

Soil reaction: Extremely acid through strongly acid in the surface layer, subsurface layer, and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are idle and are covered with brush and weeds. A few areas are used for pasture or hay, and several small areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. If artificially drained, this soil is suited to some of the forage and field crops grown in the county. Wetness can delay tillage in spring. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas of the unit, however, wetland regulations may prohibit or restrict alteration of drainage. Growing winter cover crops, returning crop residue to the soil, and regular adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit generally is suited to pasture, especially in the drier areas. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered when sites for dwellings are selected. The instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations. State or local regulations may prohibit or restrict the construction of dwellings in some areas of this unit. Wetland regulations should be investigated before dwellings are constructed in some areas of the unit.

Septic tank absorption fields.—Because of prolonged periods of wetness caused by the seasonal high water table, a poor filtering capacity, and seepage caused by rapid permeability, this unit is very limited as a site for conventional septic tank absorption fields. The poor filtering capacity can result in the contamination of ground water and of nearby water bodies. Better suited soils should be considered in many areas of this unit because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of some areas of this unit as sites for conventional septic tank absorption fields. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of this limitation. In some of the wettest areas, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before roads and streets are constructed on this unit.

Land capability subclass: Somewhat poorly drained Naumburg soil—3w; poorly drained Naumburg soil—4w.

95—Carlisle muck

This very deep, nearly level, very poorly drained soil is in bogs, deep depressions, and basins on outwash plains, lake plains, and till plains. It formed in well decomposed organic deposits that are more than 51 inches deep over mineral deposits. Areas of this map unit are mainly irregularly shaped or elongated. They are as much as 228 acres in size but typically are less than 60 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 10 inches, black (broken face and rubbed) muck, about 10 percent fiber undisturbed and 5 percent fiber rubbed

10 to 12 inches, black (broken face and rubbed) muck, about 15 percent fiber undisturbed and 5 percent fiber rubbed

Subsurface tier

12 to 18 inches, black (broken face and rubbed) muck, about 15 percent fiber undisturbed and 5 percent fiber rubbed

18 to 36 inches, black (broken face and rubbed) muck, about 20 percent fiber undisturbed and 3 percent fiber rubbed

Bottom tier

36 to 51 inches, black (broken face and rubbed) muck, about 20 percent fiber undisturbed and 3 percent fiber rubbed

51 to 54 inches, black (broken face and rubbed) muck, about 25 percent fiber undisturbed and 3 percent fiber rubbed

Mineral substratum

54 to 72 inches, reddish gray silty clay loam

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Generally toward the edges of the map unit, small areas of Palms soils, which have organic deposits that are less than 51 inches deep over loamy material
- Near the periphery of the mapped areas, poorly drained Chippewa and Lyons soils, which formed in glacial till, and poorly drained Canandaigua and Lamson soils, which formed in water-sorted deposits
- Some areas of Carlisle soils that are more acid than this Carlisle soil
- Very poorly drained Wallkill and poorly drained Wayland soils in a few areas on flood plains
- In the towns of Ava, Lee, Florence, and Steuben, Carlisle soils that are at an elevation of more than 1,000 feet and have cooler soil temperatures than this Carlisle soil

Soil Properties

Carlisle soil

Permeability: Moderately slow through moderately rapid throughout the organic material
Available water capacity (40-inch profile): High
Soil reaction: Very strongly acid through slightly alkaline throughout the organic part of the soil and slightly acid through slightly alkaline in the mineral substratum
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from September through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with water-tolerant brush, trees, and herbaceous vegetation. A few spots were once artificially drained, but were later abandoned, and now are covered with weeds and brush.

Cropland.—This unit is unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock can puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

99—Greenwood peat

This very deep, nearly level, very poorly drained soil is in bogs and deep depressions (fig. 7). It occurs mainly in the northeastern part of the county. It formed in more than 51 inches of organic deposits containing largely undecomposed

Figure 7.—An area of Greenwood peat, an organic soil that has a high water table throughout most of the year.

sphagnum moss and partially decomposed herbaceous material. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 118 acres in size but typically are less than 39 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 5 inches, dark reddish brown (broken face and rubbed) peat, about 90 percent fiber undisturbed and 85 percent fiber rubbed

5 to 12 inches, dark reddish brown (broken face and rubbed) peat, about 85 percent fiber undisturbed and 80 percent fiber rubbed

Subsurface tier

12 to 32 inches, dark reddish brown (broken face and rubbed) mucky peat, about 80 percent fiber undisturbed and 50 percent fiber rubbed

32 to 36 inches, dark reddish brown (broken face and rubbed) mucky peat, about 75 percent fiber undisturbed and 30 percent fiber rubbed

Bottom tier

36 to 72 inches, dark reddish brown (broken face and rubbed) mucky peat, about 75 percent fiber undisturbed and 30 percent fiber rubbed

Included Areas

Included areas make up about 20 percent of the unit. They are as much as 3 acres in size. They are as follows—

- Dawson soils, which formed in organic deposits that are 16 to 51 inches deep over sandy material

- On the same landforms as the Greenwood soil, Borosaprists in areas where the organic deposits are more decomposed
- Spots of somewhat poorly drained Naumburg soils, which formed in sandy deltaic or glaciofluvial deposits and are in some of the higher areas
- In the slightly higher areas and near the periphery of the mapped areas, somewhat poorly drained Adirondack, moderately well drained Skerry, and well drained Becket soils, all of which formed in glacial till

Soil Properties

Greenwood soil

Permeability: Moderately rapid in the surface tier and moderate or moderately rapid in the subsurface and bottom tiers
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid throughout the profile
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from September through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas have a cover of water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, and the potential for frost action, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

102B—Honeoye silt loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on drumlins and hilltops and in slightly convex areas on glaciated uplands in the southern part of the county. It formed in glacial till derived from limestone and calcareous shale. Areas of this map unit are mainly broad or irregular in shape. They are as much as 1,617 acres in size but typically are less than 200 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
7 to 17 inches, brown silt loam, 10 percent rock fragments
17 to 25 inches, brown gravelly silt loam, 15 percent rock fragments

Substratum
25 to 72 inches, brown, firm very gravelly silt loam, 50 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Lima, somewhat poorly drained Kendaia, and somewhat poorly drained Appleton soils in depressions and slightly concave areas
- On the same landforms as the Honeoye soil, Lansing soils, which are deeper to carbonates than the Honeoye soil
- Some areas of poorly drained Lyons soils on the more nearly level parts of the landscape, in the deeper depressions, and along drainageways
- Some areas of moderately well drained Cazenovia soils, which have a higher content of clay in the subsoil than the Honeoye soil
- Small areas of Honeoye soils that have slopes of less than 3 percent

Soil Properties

Honeoye soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 4.0 to 6.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Erosion is a hazard on long slopes and in the steeper areas. Stripcropping and a conservation tillage system that leaves crop residue on the surface after planting help to control erosion. Returning

crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—In most areas few or no limitations affect the use of this unit as a site for dwellings.

Septic tank absorption fields.—The slow or very slow permeability in the dense substratum and the seasonal high water table in the lower part of the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

102C—Honeoye silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern part of the county. It formed in glacial till derived from limestone and calcareous shale. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 262 acres in size but typically are less than 80 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
7 to 17 inches, brown silt loam, 10 percent rock fragments
17 to 25 inches, brown gravelly silt loam, 15 percent rock fragments

Substratum
25 to 72 inches, brown, firm very gravelly silt loam, 50 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Lima, somewhat poorly drained Kendaia, and somewhat poorly drained Appleton soils in depressions and slightly concave areas
- On the same landforms as the Honeoye soil, Lansing soils, which are deeper to carbonates than the Honeoye soil
- Some areas of poorly drained Lyons soils on the more nearly level parts of the landscape, in the deeper depressions, and along drainageways

- Some areas of moderately well drained Cazenovia soils, which have a higher content of clay in the subsoil than the Honeoye soil
- Small areas of Honeoye soils that have slopes of more than 15 percent

Soil Properties

Honeoye soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 4.0 to 6.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland. Some spots are idle and are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed during construction.

Septic tank absorption fields.—The slow or very slow permeability in the dense substratum, excessive slope, and the seasonal high water table in the lower part of the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope or in the less sloping areas. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness.

Local roads and streets.—The potential for frost action and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can help to prevent the damage caused by frost action. Designing the roads so that they run along the contour of the slope lowers construction and maintenance costs.

The land capability subclass is 3e.

102D—Honeoye silt loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on drumlins, hillsides, and hilltops and in convex areas in glaciated uplands in the southern part of the county. It formed in glacial till derived from limestone and calcareous shale. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 128 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
7 to 17 inches, brown silt loam, 10 percent rock fragments
17 to 25 inches, brown gravelly silt loam, 15 percent rock fragments

Substratum
25 to 72 inches, brown, firm very gravelly silt loam, 50 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
• On the same landforms as the Honeoye soil, Lansing soils, which are deeper to carbonates than the Honeoye soil
• Moderately well drained Lima, somewhat poorly drained Kendaia, and somewhat poorly drained Appleton soils in depressions and slightly concave areas
• A few narrow areas of poorly drained Lyons soils in the deeper depressions and along drainageways
• Some areas of moderately well drained Cazenovia soils, which have a higher content of clay in the subsoil than the Honeoye soil
• Small areas of Honeoye soils that have slopes of more than 25 percent

Soil Properties

Honeoye soil
Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 4.0 to 6.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay, pasture, or cultivated crops. Some areas are used as woodland. Some spots are idle and are covered with brush and weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, and a crop rotation that limits the amount of time that row crops are grown help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Minimum tillage reduces the hazard of erosion during pasture renovation. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. The adjacent soils that are less sloping may be better suited to dwellings. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum during excavation, and temporary erosion-control structures and surface mulching are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are likely to be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

103B—Honeoye-Urban land complex, 2 to 8 percent slopes

This unit consists of a very deep, gently sloping, well drained Honeoye soil and areas of Urban land. It is on glacial till plains, mostly in and around the city of Utica and in some nearby built-up areas. The Honeoye soil formed in till derived from limestone and calcareous shale. Areas of this map unit are mainly somewhat rectangular or irregular in shape. They range from 13 to 1,044 acres in size and typically are less than 176 acres.

A typical area of this complex is about 40 percent Honeoye soil, 30 percent Urban land, and 30 percent included soils. In most areas the Honeoye soil and Urban land occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Honeoye soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil

7 to 17 inches, brown silt loam, 10 percent rock fragments

17 to 25 inches, brown gravelly silt loam, 15 percent rock fragments

Substratum

25 to 72 inches, brown, firm very gravelly silt loam, 50 percent rock fragments, slightly effervescent

Typically, Urban land consists of areas where more than 50 percent of the surface is covered by impervious material, buildings, parking lots, highways, and driveways.

Impervious material typically consists of asphalt and concrete. Because of disturbance and alteration of the original soil characteristics in areas of Urban land, describing the typical sequence and composition of soil layers is difficult. The original parent materials were typically much like those in which the Honeoye soil formed.

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Urban land in areas where less than 50 percent but more than 30 percent of the surface is covered by impervious material or buildings
- Udorthents in areas where the surface has been disturbed but is not covered by impervious material
- Lansing soils, which are similar to the Honeoye soil but are deeper to carbonates
- Small areas of moderately well drained Lima, somewhat poorly drained Kendaia, and poorly drained Lyons soils on the more nearly level parts of the landscape, in depressions, and along drainageways
- A few areas of moderately well drained Cazenovia soils, which have a higher content of clay in the subsoil than the Honeoye soil
- Areas where slopes are more than 8 percent

Soil Properties

Honeoye soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum

Available water capacity (40-inch profile): Commonly moderate but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 4.0 to 6.0 feet from March through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for urban or community development. Small parcels of land have not been developed or are vacant lots or weedy areas.

Cropland.—Because it is highly urbanized, this unit is not suited to farming. Open areas generally occur as narrow plots between developed areas. Some of the open areas have potential for small gardens.

Pasture.—This unit is not suited to pasture because it is highly urbanized.

Dwellings.—The areas of Urban land commonly are used as sites for dwellings. Areas already having buildings and paved portions of the unit require significant modifications to make them suitable for new dwellings. Few or no limitations affect the use of most areas of the Honeoye soil as sites for dwellings.

Septic tank absorption fields.—The areas of Urban land are generally unsuited to conventional septic tank absorption fields. Slow and very slow permeability in the dense substratum and the seasonal high water table in the lower part of the substratum somewhat limit the use of the Honeoye soil as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Onsite investigation is necessary when sites for septic systems are selected.

Local roads and streets.—Some areas already have paved roads and streets, which, along with the existing buildings, greatly limit this unit as a site for new local roads and streets without significant modifications. The Honeoye soil is somewhat limited by the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation. Onsite investigation is necessary to determine the suitability of each area for local roads and streets.

This unit has not been assigned a land capability classification.

104E—Honeoye and Cazenovia silt loams, 25 to 45 percent slopes

This unit consists of very deep, steep and very steep soils on the side slopes of deeply incised glacial till uplands. It is mainly along streams and drainageways in the southern part of the county. The Honeoye soil is well drained, and the Cazenovia soil is moderately well drained. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 130 acres in size but typically are less than 75 acres. Some areas consist mainly of the Honeoye soil, some are dominated by the Cazenovia soil, and some consist of both soils. The two soils were mapped together because they have similar interpretations for use and management. The unit is about 40 percent Honeoye soil, 40 percent Cazenovia soil, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Honeoye soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
7 to 17 inches, brown silt loam, 10 percent rock fragments
17 to 25 inches, brown gravelly silt loam, 15 percent rock fragments

Substratum
25 to 72 inches, brown, firm very gravelly silt loam, 50 percent rock fragments, slightly effervescent

The typical sequence, depth, and composition of the layers of the Cazenovia soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 3 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 16 inches, reddish brown silt loam, 10 percent rock fragments
16 to 22 inches, reddish brown gravelly silty clay loam, 15 percent rock fragments

Substratum
22 to 72 inches, reddish brown, firm gravelly silty clay loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Honeoye and Cazenovia soils, small areas of well drained Lansing soils. These soils are deeper to carbonates than the Honeoye and Cazenovia soils.
- Some areas of well drained Cazenovia soils
- Spots of well drained Nellis soils, which have less clay in the subsoil than the Honeoye and Cazenovia soils
- Some severely eroded areas
- Areas where slopes are more than 45 percent
- Seepage areas and rock outcrops, which are commonly identified on the soil map by appropriate spot symbols
- Some narrow areas of alluvial soils adjacent to streams

Soil Properties

Honeoye soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 4.0 to 6.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Cazenovia soil

Permeability: Moderate in the surface layer and subsurface layer, moderate or moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, subsurface layer, and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 4.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are used for pasture or hay or are idle.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope severely limits the operation of equipment.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful during pasture renovation in some areas. Excessive slope limits the safe operation of farm machinery.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, the Cazenovia soil is very limited by the seasonal high water table. In most areas extensive landscaping and grading are needed because of steep and very steep slopes. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Because of excessive slope and the slow or very slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are better suited to conventional systems. Laterally moving effluent could seep to the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems in many areas of this unit because of excessive slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Also, the Cazenovia soil is very limited by low strength. The roads and streets should be designed so that they conform to the natural slope of the land, and grading and filling are needed in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

109B—Cazenovia silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern part of the county. It formed in firm glacial till derived mainly from red shale and limestone. In a few areas small amounts of lacustrine material are mixed with the till. Areas of this map unit are mainly broad, elongated, somewhat oval, or irregular in shape. They are as much as 1,435 acres in size but typically are less than 230 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 3 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 16 inches, reddish brown silt loam, 10 percent rock fragments
16 to 22 inches, reddish brown gravelly silty clay loam, 15 percent rock fragments

Substratum
22 to 72 inches, reddish brown, firm gravelly silty clay loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have less clay in the subsoil than the Cazenovia soil
- Areas where erosion has removed the surface layer and the upper part of the subsoil
- Some areas of well drained soils
- Somewhat poorly drained Ovid and Appleton soils on the more nearly level parts of the landscape and in depressions
- Poorly drained Lyons soils along some drainageways
- Small areas of Cazenovia soils that have slopes of more than 8 percent

Soil Properties

Cazenovia soil

Permeability: Moderate in the surface layer and subsurface layer, moderate or moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, subsurface layer, and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 4.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland. Some spots are idle and are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can strengthen the load-bearing surface and reduce the potential for frost damage.

The land capability subclass is 2e.

109C—Cazenovia silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern part of the county. It formed in glacial till derived mainly from red shale and limestone. In a few areas small amounts of lacustrine material are mixed with the till.

Areas of this unit are mainly elongated or irregular in shape. They are as much as 293 acres in size but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 3 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 16 inches, reddish brown silt loam, 10 percent rock fragments
16 to 22 inches, reddish brown gravelly silty clay loam, 15 percent rock fragments

Substratum
22 to 72 inches, reddish brown, firm gravelly silty clay loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have less clay in the subsoil than the Cazenovia soil
- Areas where erosion has removed the surface layer and the upper part of the subsoil
- Some areas of well drained soils
- Somewhat poorly drained Ovid and Appleton soils on the more nearly level parts of the landscape and in depressions
- Poorly drained Lyons soils along some drainageways
- Small areas of Cazenovia soils that have slopes of more than 15 percent

Soil Properties

Cazenovia soil

Permeability: Moderate in the surface layer and subsurface layer, moderate or moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, subsurface layer, and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 4.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland. Some spots are idle and are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, slow permeability in the substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope or in areas of the less sloping included soils.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can strengthen the load-bearing surface and reduce the potential for frost damage.

The land capability subclass is 3e.

109D—Cazenovia silt loam, 15 to 25 percent slopes

This very deep, moderately steep, moderately well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern part of the county. It formed in glacial till derived mainly from red shale and limestone. In a few areas small amounts of lacustrine material are mixed with the till. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 99 acres in size but typically are less than 36 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 3 percent rock fragments

Subsurface layer
7 to 10 inches, brown silt loam, 5 percent rock fragments

Subsoil
10 to 16 inches, reddish brown silt loam, 10 percent rock fragments
16 to 22 inches, reddish brown gravelly silty clay loam, 15 percent rock fragments

Substratum
22 to 72 inches, reddish brown, firm gravelly silty clay loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have less clay in the subsoil than the Cazenovia soil
- Areas where erosion has removed the surface layer and the upper part of the subsoil

- Some areas of well drained soils
- Small areas of Cazenovia soils that have slopes of more than 25 percent
- Some narrow areas of alluvial soils adjacent to streams
- Common seepage areas at the base of slopes

Soil Properties

Cazenovia soil

Permeability: Moderate in the surface layer and subsurface layer, moderate or moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, subsurface layer, and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 4.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Many areas are used as woodland or are covered with brush and weeds. Some areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe erosion hazard. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that limits the amount of time that row crops are grown can reduce the hazard of erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is moderately suited to pasture. Erosion is a hazard. Minimum tillage reduces the hazard of erosion during pasture renovation. Restricted grazing during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope and the seasonal high water table, this unit is very limited as a site for dwellings with basements. The dwellings should be designed so that they conform to the natural slope of the land. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope and slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The nearby soils that are less sloping and are moderately rapidly permeable are better suited to this use. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope and low strength, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land, and grading and filling are needed in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

111B—Lansing silt loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern and eastern parts of the county. It formed in loamy glacial till derived mainly from limestone and calcareous shale. Areas of this map unit are mainly broad, elongated, somewhat oval, or irregular in shape. They are as much as 601 acres in size but typically are less than 115 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 5 percent rock fragments
13 to 17 inches, dark yellowish brown silt loam, 5 percent rock fragments
17 to 22 inches, very dark grayish brown gravelly silt loam, 15 percent rock fragments
22 to 36 inches, very dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations, 5 percent rock fragments

Substratum
36 to 72 inches, very dark grayish brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the same landforms as the Lansing soil, Honeoye soils, which are calcareous above a depth of 32 inches
- Moderately well drained Conesus and somewhat poorly drained Kendaia soils in nearly level areas and in depressions
- Poorly drained Lyons soils in depressions and along drainageways
- On the same landforms as the Lansing soil, moderately well drained Cazenovia soils, which are redder than the Lansing soil and have a higher content of clay in the subsoil
- Small areas of Lansing soils that have slopes of more than 8 percent

Soil Properties

Lansing soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland or are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after planting helps to control erosion. Growing winter cover crops, using crop rotations, and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Slow permeability in the dense substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

111C—Lansing silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on side slopes, drumlins, and hilltops and in slightly convex areas on glaciated uplands in the southern and eastern parts of the county. It formed in loamy glacial till derived mainly from limestone and calcareous shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 223 acres in size but typically are less than 115 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
- 0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
- 9 to 13 inches, brown silt loam, 5 percent rock fragments
- 13 to 17 inches, dark yellowish brown silt loam, 5 percent rock fragments
- 17 to 22 inches, very dark grayish brown gravelly silt loam, 15 percent rock fragments
- 22 to 36 inches, very dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations, 5 percent rock fragments

Substratum
- 36 to 72 inches, very dark grayish brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Lansing soil, Honeoye soils, which are calcareous above a depth of 32 inches
- Moderately well drained Conesus and somewhat poorly drained Kendaia soils in the less sloping areas and in depressions
- Poorly drained Lyons soils in depressions and along drainageways
- On the same landforms as the Lansing soil, moderately well drained Cazenovia soils, which are redder than the Lansing soil and have a higher content of clay in the subsoil
- Small areas of Lansing soils that have slopes of more than 15 percent

Soil Properties

Lansing soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. A few areas are used as woodland or are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed during construction.

Septic tank absorption fields.—Slow permeability in the dense substratum and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Land shaping and grading are needed, or the roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

111D—Lansing silt loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on side slopes and drumlins and in convex areas on glaciated uplands in the southern and eastern parts of the county. It formed in loamy glacial till derived mainly from limestone and calcareous shale. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 156 acres in size but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 5 percent rock fragments
13 to 17 inches, dark yellowish brown silt loam, 5 percent rock fragments
17 to 22 inches, very dark grayish brown gravelly silt loam, 15 percent rock fragments
22 to 36 inches, very dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations, 5 percent rock fragments

Substratum
36 to 72 inches, very dark grayish brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the same landforms as the Lansing soil, Honeoye soils, which are calcareous above a depth of 32 inches
- Moderately well drained Conesus and somewhat poorly drained Kendaia soils in the less steep areas and in depressions
- Small areas of poorly drained Lyons soils in depressions and along drainageways
- On the same landforms as the Lansing soil, moderately well drained Cazenovia soils, which are redder than the Lansing soil and have a higher content of clay in the subsoil
- Small areas of Lansing soils that have slopes of more than 25 percent

Soil Properties

Lansing soil
Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used for cultivated crops. A few areas are used as woodland or are covered with brush and weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, and a crop rotation that limits the amount of time that row crops are grown help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Minimum tillage reduces the hazard of erosion during pasture renovation. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum during excavation, and temporary erosion-control structures and seeding are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

111E—Lansing silt loam, 25 to 45 percent slopes

This very deep, steep and very steep, well drained soil is on side slopes on glaciated uplands in the southern and eastern parts of the county. It formed in loamy glacial till derived mainly from limestone and calcareous shale. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 543 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 5 percent rock fragments
13 to 17 inches, dark yellowish brown silt loam, 5 percent rock fragments
17 to 22 inches, very dark grayish brown gravelly silt loam, 15 percent rock fragments
22 to 36 inches, very dark grayish brown silt loam with a few yellowish brown redoximorphic concentrations, 5 percent rock fragments

Substratum
36 to 72 inches, very dark grayish brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Lansing soil, Honeoye soils, which are calcareous above a depth of 32 inches
- Moderately well drained Conesus and somewhat poorly drained Kendaia soils in the less steep areas and in depressions
- Small areas of poorly drained Lyons soils in depressions and along drainageways
- On the same landforms as the Lansing soil, small areas of moderately well drained Cazenovia soils, which are redder than the Lansing soil and have a higher content of clay in the subsoil

Soil Properties

Lansing soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay. A few areas are idle and are covered with brush and weeds. Some spots are used for cultivated crops.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope severely limits the operation of farm equipment.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Some of the less sloping areas that are accessible are suited to permanent pasture. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful in renovating the pasture in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Extensive landscaping and grading commonly are needed on the steep and very steep slopes. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable may be better suited to this use. Laterally moving effluent could seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be routed around this unit or should be designed so that they conform to the natural slope of the land. Properly locating the roads can minimize the need for cutting and filling. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

113A—Camroden silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is in slightly concave areas on broad glaciated uplands. In most areas it occurs in the north-central part of the county, at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived mainly from shale and siltstone. A dense fragipan is in the lower part of the subsoil. Generally, areas of this map unit are roughly oval, oblong, or irregular in shape. They are as much as 238 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments

Subsoil
5 to 16 inches, dark yellowish brown silt loam, 5 percent rock fragments
16 to 19 inches, brown channery silt loam with common yellowish brown redoximorphic concentrations and light brownish gray redoximorphic depletions, 15 percent rock fragments
19 to 42 inches, brown, very firm channery silt loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Substratum
42 to 72 inches, dark grayish brown, firm channery silt loam, 20 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Pinckney soils on the higher parts of the landscape and on the more convex landforms
- Well drained Bice soils in a few of the higher areas where the glacial till is less dense
- Small areas of poorly drained Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Spots of very poorly drained Wonsqueak soils in a few depressions. These soils have organic deposits more than 16 inches thick.
- In the town of Lee, a few areas below an elevation of 1,000 feet

Soil Properties

Camroden soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and very slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Very low through moderate
Soil reaction: Very strongly acid through moderately acid in the surface layer and the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil (the fragipan), and moderately acid through slightly alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness and the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense layer in the subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

113B—Camroden silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained (fig. 8) soil is on footslopes and toeslopes and in slightly concave areas on broad glaciated uplands. In most areas it occurs in the north-central part of the county, at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived mainly from shale and siltstone. A dense fragipan is in the lower part of the subsoil. Areas of this map unit are mainly broad, oblong, or irregular in shape. They are as much as 1,809 acres in size but typically are less than 425 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 5 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

5 to 16 inches, dark yellowish brown silt loam, 5 percent rock fragments

16 to 19 inches, brown channery silt loam with common yellowish brown redoximorphic concentrations and light brownish gray redoximorphic depletions, 15 percent rock fragments

19 to 42 inches, brown, very firm channery silt loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Figure 8.—In the foreground, a hayfield in an area of Camroden silt loam, 3 to 8 percent slopes, in the frigid part of Oneida County. The hayfields throughout the picture show a drainage sequence with somewhat poorly drained Camroden silt loam in the foreground, moderately well drained Pinckney soils in the right background, and poorly drained Lyons soils in the depression at the center.

Substratum

42 to 72 inches, dark grayish brown, firm channery silt loam, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Pinckney soils on the higher parts of the landscape and on the more convex landforms
- Well drained Bice soils in some of the higher areas where the glacial till is less dense
- In the towns of Ava, Boonville, and Steuben, Malone soils in a few areas where the glacial till is higher content of lime and was derived from limestone and shale
- Small areas of poorly drained Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Spots of very poorly drained Wonsqueak soils in a few depressions. These soils have organic deposits more than 16 inches thick.
- A few areas where slopes are more than 8 percent
- In the towns of Lee and Western, Camroden soils below an elevation of 1,000 feet

Soil Properties

Camroden soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and very slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil (the fragipan), and moderately acid through slightly alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness and the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense layer in the subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

113C—Camroden silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat poorly drained soil is on hillsides and hilltops and in slight depressions on broad glaciated uplands. In most areas it occurs in the north-central part of the county, at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived mainly from shale and siltstone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 138 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 5 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

5 to 16 inches, dark yellowish brown silt loam, 5 percent rock fragments

16 to 19 inches, brown channery silt loam with common yellowish brown redoximorphic concentrations and light brownish gray redoximorphic depletions, 15 percent rock fragments

19 to 42 inches, brown, very firm channery silt loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Substratum

42 to 72 inches, dark grayish brown, firm channery silt loam, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Pinckney soils on the higher parts of the landscape and on the more convex landforms
- Well drained Bice soils in some of the higher areas where the glacial till is less dense
- Small areas of poorly drained Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Spots of very poorly drained Wonsqueak soils in a few depressions. These soils have organic deposits more than 16 inches thick.
- A few areas where slopes are more than 15 percent
- In the towns of Lee and Western, Camroden soils below an elevation of 1,000 feet

Soil Properties

Camroden soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and very slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Very low through moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil (the fragipan), and moderately acid through slightly alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness and the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense layer in the subsoil and a perched seasonal high water table.

The land capability subclass is 3e.

114B—Pinckney silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on broad glaciated uplands. It occurs in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this map unit are mainly oval, oblong, or irregular in shape. They are as much as 444 acres in size but typically are less than 135 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil
8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments
25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum
43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

• In the higher areas, well drained Bice soils, which do not have a fragipan

- Somewhat poorly drained Camroden soils in slight depressions and on footslopes and toeslopes
- Poorly drained Marcy and very poorly drained Tughill soils in elongated areas along drainageways and in depressions
- Spots of Kalurah and Malone soils in a few areas where the glacial till is higher in content of lime
- A few small areas where slopes are more than 8 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum

Available water capacity (40-inch profile): Commonly moderate but ranging from low through high

Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and a few areas are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the dense subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

114C—Pinckney silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 190 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil

8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments
25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum

43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- In the higher areas, well drained Bice soils, which do not have a fragipan
- Somewhat poorly drained Camroden soils in slight depressions and on footslopes and toeslopes
- Poorly drained Marcy and very poorly drained Tughill soils in elongated areas along drainageways and in depressions
- Spots of Kalurah and Malone soils in a few areas where the glacial till is higher in content of lime
- A few small areas where slopes are more than 15 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum

Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used as pasture. A few areas are used for cultivated crops or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, restricted permeability in the dense subsoil and substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of the potential for frost action and the seasonal high water table. Designing the roads so that they follow the contour of the slope as much as possible minimizes construction costs.

The land capability subclass is 3e.

114D—Pinckney silt loam, 15 to 25 percent slopes

This very deep, moderately steep, moderately well drained soil is on shoulder slopes and side slopes in the glaciated uplands. It occurs in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated or irregular in shape. They are as much as 124 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil
8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments
25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum
43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Bice soils, which do not have a fragipan
- Somewhat poorly drained Camroden soils in slight depressions and on footslopes and toeslopes
- Small areas of poorly drained Marcy and very poorly drained Tughill soils along some drainageways and in depressions
- A few spots of Kalurah and somewhat poorly drained Malone soils in areas where the glacial till is higher in content of lime
- Small areas of well drained Mongaup soils in areas where the glacial till is moderately deep over bedrock
- A few small areas where slopes are more than 25 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used as pasture. A few areas are used for cultivated crops or hay.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. A subsurface drainage system is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and in some areas the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The buildings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and better drained may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Where possible, routing the roads along the contour of the slope or around areas of this unit can reduce construction and maintenance costs. Erosion-control measures are needed in some areas.

The land capability subclass is 4e.

115B—Chadakoin silt loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on hilltops and the flatter parts of broad glaciated uplands. It formed in ablation till derived mainly from sandstone and siltstone and from lesser amounts of shale. Generally, areas of this map unit are roughly oval, elongated, broad, or irregular in shape. They are as much as 341 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, dark reddish brown, highly decomposed plant material
1 to 6 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

6 to 10 inches, strong brown silt loam, 5 percent rock fragments
10 to 27 inches, yellowish brown channery silt loam, 15 percent rock fragments
27 to 32 inches, yellowish brown channery silt loam with common light brownish gray redoximorphic depletions and common strong brown redoximorphic concentrations, 20 percent rock fragments
32 to 43 inches, brown channery loam, 33 percent rock fragments

Substratum

43 to 60 inches, dark grayish brown, firm very channery loam with common fine and medium distinct dark grayish brown redoximorphic depletions and a few fine prominent strong brown redoximorphic concentrations, 40 percent rock fragments
60 to 72 inches, dark grayish brown, firm very channery silt loam with many coarse prominent yellowish brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin and somewhat poorly drained Venango soils on the concave and lower parts of the landscape. These soils formed in dense glacial till.
- A few areas of moderately deep Manlius soils on the same landforms as the Chadakoin soil and in the slightly higher areas that are bedrock controlled
- Some areas of Pittsfield soils, which formed in glacial till that is higher in content of lime than the till in which the Chadakoin soil formed
- In the towns of Florence, Camden, Annsville, Lee, and Western, Chadakoin soils that have fewer rock fragments in the substratum than is typical for the map unit
- A few small areas where slopes are more than 8 percent

Soil Properties

Chadakoin soil

Permeability: Moderate in the mineral surface layer and in the upper part of the subsoil and moderate or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 3.5 to 6.0 feet from February through April
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Cultivated areas are used for corn, small grains, or hay. Crops respond well to applications of fertilizer and lime. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—In some areas the seasonal high water table in the lower part of the substratum somewhat limits the use of this unit as a site for dwellings with basements. In other areas few or no limitations affect the construction of dwellings. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—In some areas the moderately slow permeability in the subsoil and substratum and the seasonal high water table somewhat limit the use of this unit as a site for conventional septic tank absorption fields. In other areas few or no limitations affect this use. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

115C—Chadakoin silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on hilltops and side slopes in the glaciated uplands. It formed in ablation till derived mainly from sandstone and siltstone and from lesser amounts of shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 358 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, dark reddish brown, highly decomposed plant material
1 to 6 inches, dark brown silt loam, 5 percent rock fragments

Subsoil
6 to 10 inches, strong brown silt loam, 5 percent rock fragments
10 to 27 inches, yellowish brown channery silt loam, 15 percent rock fragments

27 to 32 inches, yellowish brown channery silt loam with common light brownish gray redoximorphic depletions and common strong brown redoximorphic concentrations, 20 percent rock fragments
32 to 43 inches, brown channery loam, 33 percent rock fragments

Substratum
43 to 60 inches, dark grayish brown, firm very channery loam with common fine and medium distinct dark grayish brown redoximorphic depletions and a few fine prominent strong brown redoximorphic concentrations, 40 percent rock fragments
60 to 72 inches, dark grayish brown, firm very channery silt loam with many coarse prominent yellowish brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 20 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin and somewhat poorly drained Venango soils on the lower parts of the landscape. These soils formed in dense glacial till.
- A few areas of moderately deep Manlius soils on the same landforms as the Chadakoin soil and in the slightly higher areas that are bedrock controlled
- Some areas of Pittsfield soils, which formed in glacial till that is higher in content of lime than the till in which the Chadakoin soil formed
- In the towns of Florence, Camden, Annsville, Lee, and Western, Chadakoin soils that have fewer rock fragments in the substratum than is typical for the map unit
- A few small areas where slopes are more than 15 percent

Soil Properties

Chadakoin soil

Permeability: Moderate in the mineral surface layer and in the upper part of the subsoil and moderate or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 3.5 to 6.0 feet from February through April
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used for cultivated crops. Other areas are used as woodland or are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Yearly mowing helps to control brush and weeds.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. Also, the seasonal high water table somewhat limits the use of the unit as a site for dwellings with basements. The dwellings should be designed so that they conform to the natural slope of the land. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—In most areas the moderately slow permeability in the subsoil and substratum, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. In other areas excessive slope may be the only limitation. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth reduces the potential for frost damage.

The land capability subclass is 3e.

115D—Chadakoin silt loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on hillsides and side slopes in the glaciated uplands. It formed in ablation till derived mainly from sandstone and siltstone and from lesser amounts of shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 237 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, dark reddish brown, highly decomposed plant material
1 to 6 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

6 to 10 inches, strong brown silt loam, 5 percent rock fragments
10 to 27 inches, yellowish brown channery silt loam, 15 percent rock fragments
27 to 32 inches, yellowish brown channery silt loam with common light brownish gray redoximorphic depletions and common strong brown redoximorphic concentrations, 20 percent rock fragments
32 to 43 inches, brown channery loam, 33 percent rock fragments

Substratum

43 to 60 inches, dark grayish brown, firm very channery loam with common fine and medium distinct dark grayish brown redoximorphic depletions and a few fine prominent strong brown redoximorphic concentrations, 40 percent rock fragments

60 to 72 inches, dark grayish brown, firm very channery silt loam with many coarse prominent yellowish brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 15 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin and somewhat poorly drained Venango soils on the lower parts of the landscape. These soils formed in dense glacial till.
- Some areas of moderately deep Manlius and shallow Arnot soils on the steeper slopes or in the slightly higher landscape positions
- Some areas of Pittsfield soils, which formed in glacial till that is higher in content of lime than the till in which the Chadakoin soil formed
- In the towns of Florence, Camden, Annsville, Lee, and Western, Chadakoin soils that have fewer rock fragments in the substratum than is typical for the map unit
- A few small areas where slopes are more than 25 percent

Soil Properties

Chadakoin soil

Permeability: Moderate in the mineral surface layer and in the upper part of the subsoil and moderate or moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and strongly acid through slightly acid in the substratum

Depth to a seasonal high water table: 3.5 to 6.0 feet from February through April

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping may be better suited to septic systems. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

115E—Chadakoin silt loam, 25 to 45 percent slopes

This very deep, steep and very steep, well drained soil is on side slopes and valley walls in the glaciated uplands. It formed in ablation till derived mainly from sandstone and siltstone and from lesser amounts of shale. Areas of this map unit are mainly long and narrow, elongated, or oblong. They are as much as 84 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, dark reddish brown, highly decomposed plant material
1 to 6 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

6 to 10 inches, strong brown silt loam, 5 percent rock fragments
10 to 27 inches, yellowish brown channery silt loam, 15 percent rock fragments
27 to 32 inches, yellowish brown channery silt loam with common light brownish gray redoximorphic depletions and common strong brown redoximorphic concentrations, 20 percent rock fragments
32 to 43 inches, brown channery loam, 33 percent rock fragments

Substratum

43 to 60 inches, dark grayish brown, firm very channery loam with common fine and medium distinct dark grayish brown redoximorphic depletions and a few fine prominent strong brown redoximorphic concentrations, 40 percent rock fragments
60 to 72 inches, dark grayish brown, firm very channery silt loam with many coarse prominent yellowish brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately deep Manlius and shallow Arnot soils on bedrock-controlled landscapes
- A few spots of moderately well drained Mardin and somewhat poorly drained Venango soils on the concave and lower parts of the landscape. These soils formed in dense glacial till.
- In the towns of Florence, Camden, Annsville, Lee, and Western, Chadakoin soils that have fewer rock fragments in the substratum than is typical for the map unit
- A few small areas where slopes are more than 45 percent

Soil Properties

Chadakoin soil

Permeability: Moderate in the mineral surface layer and in the upper part of the subsoil and moderate or moderately slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through moderately acid in the surface layer, very strongly acid through moderately acid in the subsoil, and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 3.5 to 6.0 feet from February through April
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used as pasture. A few areas are used for hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope limits the safe operation of farm machinery.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Conservation tillage helps to control erosion during pasture renovation. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping may be better suited to this use.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. Designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for cutting and filling reduce construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

117A—Pittsfield loam, 0 to 3 percent slopes

This very deep, nearly level, well drained soil is on glaciated uplands. It formed in calcareous till derived mainly from limestone. Areas of this map unit are mainly oval, elliptical, or irregular in shape. They are as much as 62 acres in size but typically are less than 38 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 15 inches, yellowish brown loam, 5 percent rock fragments
15 to 22 inches, dark yellowish brown loam, 5 percent rock fragments
22 to 32 inches, dark yellowish brown fine sandy loam with a few brown and brownish yellow redoximorphic concentrations, 5 percent rock fragments

Substratum
32 to 45 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments
45 to 72 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the lower and more concave parts of the landscape, moderately well drained Amenia and Lima and somewhat poorly drained Kendaia soils
- Some small areas of Honeoye and Lansing soils in the higher landscape positions
- A few spots of somewhat excessively drained Howard soils along the edges of the map unit in some areas, near deposits of glacial outwash
- In the southern part of the county, small areas of Nellis soils, which are calcareous above a depth of 40 inches
- A few small areas where slopes are more than 3 percent

Soil Properties

Pittsfield soil
Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the upper part of the subsoil, moderately acid through neutral in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Cultivated areas are used for corn, small grains, or hay. Crops respond well to applications of fertilizer and lime. Winter cover crops, crop rotations, minimum tillage, the return of crop residue to the soil, and regular additions of other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Few or no limitations affect the use of this unit as a site for conventional septic tank absorption fields.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability class is 1.

117B—Pittsfield loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on side slopes, hilltops, and the flatter parts of broad glaciated uplands. It formed in calcareous glacial till derived mainly from limestone. Generally, areas of this map unit are roughly oval, elongated, broad, or irregular in shape. They are as much as 571 acres in size but typically are less than 120 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 15 inches, yellowish brown loam, 5 percent rock fragments
15 to 22 inches, dark yellowish brown loam, 5 percent rock fragments
22 to 32 inches, dark yellowish brown fine sandy loam with a few brown and brownish yellow redoximorphic concentrations, 5 percent rock fragments

Substratum
32 to 45 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments
45 to 72 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower and more concave parts of the landscape, moderately well drained Amenia and Lima and somewhat poorly drained Kendaia soils
- Some small areas of Honeoye and Lansing soils in the higher landscape positions
- A few spots of somewhat excessively drained Howard soils along the edges of the map unit in some areas, near deposits of glacial outwash
- In the southern part of the county, small areas of Nellis soils, which are calcareous above a depth of 40 inches
- In a few areas north of the Mohawk River, soils that are less acid in the upper part than the Pittsfield soil
- A few small areas where slopes are more than 8 percent

Soil Properties

Pittsfield soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the upper part of the subsoil, moderately acid through neutral in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Cultivated areas are used for corn, small grains, or hay. Crops respond well to applications of fertilizer and lime. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Few or no limitations affect the use of this unit as a site for conventional septic tank absorption fields.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

117C—Pittsfield loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on hilltops and side slopes in the glaciated uplands. It formed in calcareous till derived mainly from limestone. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 148 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 15 inches, yellowish brown loam, 5 percent rock fragments
15 to 22 inches, dark yellowish brown loam, 5 percent rock fragments
22 to 32 inches, dark yellowish brown fine sandy loam with a few brown and brownish yellow redoximorphic concentrations, 5 percent rock fragments

Substratum
32 to 45 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments
45 to 72 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower and more concave parts of the landscape, moderately well drained Amenia and Lima and somewhat poorly drained Kendaia soils
- Some small areas of Honeoye and Lansing soils in the higher landscape positions
- A few spots of somewhat excessively drained Howard soils along the edges of the map unit in some areas, near deposits of glacial outwash
- In the southern part of the county, small areas of Nellis soils, which are calcareous above a depth of 40 inches
- In a few areas north of the Mohawk River, soils that are less acid in the upper part than the Pittsfield soil
- A few small areas where slopes are more than 15 percent

Soil Properties

Pittsfield soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the upper part of the subsoil, moderately acid through neutral in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture, hay, or woodland. Some areas are used for cultivated crops. A few areas are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Yearly mowing helps to control brush and weeds.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope somewhat limits the use of this unit as a site for conventional septic tank absorption fields. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

117D—Pittsfield loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on shoulder slopes and side slopes in the glaciated uplands. It formed in calcareous till derived mainly from limestone. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 89 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 15 inches, yellowish brown loam, 5 percent rock fragments
15 to 22 inches, dark yellowish brown loam, 5 percent rock fragments
22 to 32 inches, dark yellowish brown fine sandy loam with a few brown and brownish yellow redoximorphic concentrations, 5 percent rock fragments

Substratum
32 to 45 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments
45 to 72 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower and more concave parts of the landscape, moderately well drained Amenia and Lima and somewhat poorly drained Kendaia soils
- Some areas of Chadakoin, Honeoye, and Lansing soils in the higher landscape positions
- A few spots of somewhat excessively drained Howard soils along the edges of the map unit in some areas, near deposits of glacial outwash
- In the southern part of the county, small areas of Nellis soils, which are calcareous above a depth of 40 inches
- In a few areas north of the Mohawk River, soils that are less acid in the upper part than the Pittsfield soil
- A few small areas where slopes are more than 25 percent

Soil Properties

Pittsfield soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the upper part of the subsoil, moderately acid through neutral in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay. A few areas are used for cultivated crops or are covered with brush or weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The less sloping adjacent soils may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. Less sloping, well drained soils should be considered when sites are selected for this use. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent may increase the effectiveness of the system. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

117E—Pittsfield loam, 25 to 45 percent slopes

This very deep, steep and very steep, well drained soil is on shoulder slopes, side slopes, and valley walls in the glaciated uplands. It formed in calcareous till derived mainly from limestone. Areas of this map unit are mainly long and narrow, oblong, or irregular in shape. They are as much as 213 acres in size but typically are less than 85 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 15 inches, yellowish brown loam, 5 percent rock fragments
15 to 22 inches, dark yellowish brown loam, 5 percent rock fragments
22 to 32 inches, dark yellowish brown fine sandy loam with a few brown and brownish yellow redoximorphic concentrations, 5 percent rock fragments

Substratum
32 to 45 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments
45 to 72 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower and more concave parts of the landscape, small areas of moderately well drained Amenia and Lima and somewhat poorly drained Kendaia soils
- Some areas Chadakoin, Honeoye, and Lansing soils in the higher landscape positions
- A few spots of somewhat excessively drained Howard soils along the edges of the map unit in some areas, near deposits of glacial outwash
- In the southern part of the county, small areas of Nellis soils, which are calcareous above a depth of 40 inches
- North of the Mohawk River, soils that are less acid in the upper part than the Pittsfield soil
- A few small areas where slopes are more than 45 percent

Soil Properties

Pittsfield soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Very strongly acid through neutral in the surface layer, strongly acid through neutral in the upper part of the subsoil, moderately acid through neutral in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay, and a few areas are covered with brush and weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Extensive landscaping and grading commonly are needed. The adjacent soils that are less sloping may be better suited to dwellings.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping may be better suited to this use. Laterally moving effluent could seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

119B—Pyrities loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on toeslopes, side slopes, and hilltops on glacial uplands, mainly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived mainly from limestone and shale. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 325 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 5 percent rock fragments

Subsoil
8 to 15 inches, yellowish brown fine sandy loam, 10 percent rock fragments
15 to 27 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments

Substratum
27 to 66 inches, brown gravelly fine sandy loam, 20 percent rock fragments
66 to 72 inches, brown gravelly fine sandy loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Bice soils, which are more acid throughout than the Pyrites soil
- Moderately well drained Kalurah soils in slightly concave areas and on the lower parts of the landscape
- Somewhat poorly drained Malone soils in slightly concave areas
- Small areas of poorly drained Marcy and Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Many areas where surface boulders are about 300 feet apart. These boulders do not significantly interfere with the use of the soil.
- A few small areas where slopes are more than 8 percent

Soil Properties

Pyrities soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland, pasture, or hayland (fig. 9). Some areas are used for cultivated crops or are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Where they occur, boulders typically do not significantly interfere with cultivation on this unit. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Growing winter cover crops, using crop rotations, and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—In some areas the restricted permeability in the substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. In other areas of the unit, few or no limitations affect this use. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Figure 9.—A hayfield in an area of Pyrities loam, 3 to 8 percent slopes.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

119C—Pyrities loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on toeslopes, side slopes, and hilltops on glacial uplands, mostly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived mainly from limestone and shale. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 149 acres in size but typically are less than 90 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 5 percent rock fragments

Subsoil
8 to 15 inches, yellowish brown fine sandy loam, 10 percent rock fragments
15 to 27 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments

Substratum
27 to 66 inches, brown gravelly fine sandy loam, 20 percent rock fragments
66 to 72 inches, brown gravelly fine sandy loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Bice soils, which are more acid throughout than the Pyrites soil
- Moderately well drained Kalurah soils in slightly concave areas and on the lower parts of the landscape
- Somewhat poorly drained Malone soils in slightly concave areas
- Small areas of poorly drained Marcy and Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Many areas where surface boulders are about 300 feet apart. These boulders do not significantly interfere with the use of the soil.
- A few small areas where slopes are more than 15 percent

Soil Properties

Pyrities soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland, pasture, or hayland. Some areas are used for cultivated crops or are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Where they occur, boulders typically do not significantly interfere with cultivation on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope somewhat limits the use of this unit as a site for conventional septic tank absorption fields. In some areas the unit also is somewhat limited by the restricted permeability in the substratum. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage. Designing the roads so that they conform to the natural slope of the land can reduce construction and maintenance costs.

The land capability subclass is 3e.

119D—Pyrities loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on side slopes in the glaciated uplands, mostly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. In a few areas slopes are hilly and complex. The soil formed in loamy, calcareous till derived mainly from limestone and shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 272 acres in size but typically are less than 55 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 5 percent rock fragments

Subsoil
8 to 15 inches, yellowish brown fine sandy loam, 10 percent rock fragments

15 to 27 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments

Substratum

27 to 66 inches, brown gravelly fine sandy loam, 20 percent rock fragments
66 to 72 inches, brown gravelly fine sandy loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Bice soils, which are more acid throughout than the Pyrites soil
- Moderately well drained Kalurah and somewhat poorly drained Malone soils in slightly concave areas
- Small areas of poorly drained Marcy and Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Many areas where surface boulders are about 300 feet apart. These boulders do not significantly interfere with the use of the soil.
- A few small areas where slopes are more than 25 percent

Soil Properties

Pyrities soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay. A few areas are idle and are covered with brush and weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Where they occur, boulders typically do not significantly interfere with cultivation on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Minimum tillage reduces the hazard of erosion during pasture renovation. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The less sloping adjacent soils may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils should be considered when sites for this use are selected. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent may increase the effectiveness of the system. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

119E—Pyrities loam, 25 to 45 percent slopes

This very deep, steep and very steep, well drained soil is on shoulder slopes, side slopes, and valley walls in the glaciated uplands, mainly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived mainly from limestone and shale. Areas of this map unit are mainly long and narrow or are irregular in shape and range from 13 to 227 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 5 percent rock fragments

Subsoil
8 to 15 inches, yellowish brown fine sandy loam, 10 percent rock fragments
15 to 27 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments

Substratum
27 to 66 inches, brown gravelly fine sandy loam, 20 percent rock fragments
66 to 72 inches, brown gravelly fine sandy loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Bice soils, which are more acid throughout than the Pyrites soil
- Moderately well drained Kalurah and somewhat poorly drained Malone soils in depressions and on the lower parts of the landscape
- Small areas of poorly drained Marcy and Runeberg soils along drainageways
- Many areas where surface boulders are about 300 feet apart. These boulders do not significantly interfere with the use of the soil.
- A few small areas where slopes are more than 45 percent

Soil Properties

Pyrities soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are used for pasture or hay or are covered with brush and weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. In some areas applications of fertilizer and weed control can increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Extensive landscaping and grading commonly are needed. The adjacent soils that are less sloping may be better suited to dwellings.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping may be better suited to this use. Laterally moving effluent may seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. Designing the roads so that they conform to the natural slope of the land and grading and filling can reduce construction and maintenance costs in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

120C—Pyrities loam, rolling, very bouldery

This very deep, well drained soil is on the side slopes of rolling, glaciated uplands, mostly in the northeastern part of the county. It is at an elevation of more than 1,000 feet. The unit commonly occurs in areas where there is a major change in soil types. The soil formed in loamy, calcareous till derived mainly from limestone and shale. Boulders cover 0.1 to 3 percent of the surface. Generally, areas of this map unit are roughly oval, broad, elongated, or irregular in shape. They are as much as 199 acres in size but typically are less than 66 acres. Slopes range from 5 to 15 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 5 percent rock fragments

Subsoil
8 to 15 inches, yellowish brown fine sandy loam, 10 percent rock fragments
15 to 27 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments

Substratum
27 to 66 inches, brown gravelly fine sandy loam, 20 percent rock fragments
66 to 72 inches, brown gravelly fine sandy loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas having fewer boulders on the surface than the Pyrites soil
- On the same landforms as the Pyrites soil, Bice soils, which are more acid throughout than the Pyrites soil
- Moderately well drained Kalurah soils in slightly concave areas and on the lower parts of the landscape
- Somewhat poorly drained Malone soils in depressions and on the more concave parts of the landscape
- A few small areas where slopes are more than 15 percent

Soil Properties

Pyrities soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly acid through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or woodland. Some areas are used for hay or are covered with brush and weeds.

Cropland.—This unit is moderately suited to cultivated crops in areas where boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. Stones on the surface may cause excessive wear of equipment or damage to the equipment. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Erosion is a hazard in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion.

Pasture.—This unit generally is suited to pasture. In many areas, however, maintaining the pasture is difficult because of the surface boulders. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope and large surface boulders somewhat limit the use of this unit as a site for conventional septic tank absorption fields. The unit also is somewhat limited by the restricted permeability in the substratum. The large boulders can increase construction costs during site preparation. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage. Designing the roads so that they conform to the natural slope of the land can reduce construction and maintenance costs.

The land capability subclass is 6s.

121B—Worth loam, 3 to 8 percent slopes, stony

This very deep, gently sloping, well drained soil is on hilltops and side slopes in the glaciated uplands, mostly on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 356 acres in size but typically are less than 80 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil

8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum

59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on footslopes, moderately well drained Empeyville and somewhat poorly drained Westbury soils

- Elongated areas of poorly drained Dannemora soils along drainageways and in small depressions. In some areas these soils are identified on the soil map by a symbol for wet spots.
- Some areas of Bice soils on the same landscape as the Worth soil. These soils do not have a fragipan in the subsoil.

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—The slow permeability in the dense subsoil and substratum and the seasonal high water table somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

121C—Worth loam, 8 to 15 percent slopes, stony

This very deep, strongly sloping, well drained soil is on hilltops and side slopes in the glaciated uplands, mostly on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 237 acres in size but typically are less than 74 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil
8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum
59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on footslopes, moderately well drained Empeyville and somewhat poorly drained Westbury soils
- Elongated areas of poorly drained Dannemora soils along drainageways and in small depressions. In some areas these soils are identified on the soil map by a symbol for wet spots.
- Some areas of Bice soils on the same landscape as the Worth soil. These soils do not have a fragipan in the subsoil.

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for cultivated crops, pasture, or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. The surface stones do not interfere with cultivation in the areas where they occur, but they may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. It is somewhat limited as a site for dwellings without basements because of the seasonal high water table and excessive slope. Grading the land so that surface water moves away from the dwellings and installing interceptor drains reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—The slow permeability in the dense subsoil and substratum, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, excessive slope, and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Building the roads along the contour of the slope and installing a drainage system can reduce the adverse effects of these limitations. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

121D—Worth loam, 15 to 25 percent slopes, stony

This very deep, moderately steep, well drained soil is on side slopes in the glaciated uplands, mostly on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in firm glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 86 acres in size but typically are less than 34 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil
8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum
59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on toeslopes and footslopes, moderately well drained Empeyville and somewhat poorly drained Westbury soils
- A few small elongated areas of poorly drained Dannemora soils along drainageways and in small depressions
- Some areas of Bice soils on the same landscape as the Worth soil. These soils do not have a fragipan in the subsoil.

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are used as pasture or are covered with brush and weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Surface stones may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that limits the amount of time that row crops are grown reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. In some areas minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In many areas it also is very limited as a site for dwellings with basements because of the seasonal high water table. The adjacent soils that are less sloping may be better suited to dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors reduce the wetness. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

121E—Worth loam, 25 to 45 percent slopes, stony

This very deep, steep and very steep, well drained soil is on side slopes in the glaciated uplands on the Tug Hill Plateau. It formed in glacial till derived from mainly sandstone and siltstone. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this map unit are elongated or long and narrow. They are as much as 6 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil
8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum
59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on toeslopes and footslopes, moderately well drained Empeyville and somewhat poorly drained Westbury soils
- A few elongated areas of poorly drained Dannemora soils along drainageways and in small depressions
- Some small areas of Bice soils, which do not have a fragipan in the subsoil

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches
Index surface runoff: Very high

Use and Management

This map unit is used as woodland.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. The surface stones may cause excessive wear of equipment or damage to the equipment. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Extensive landscaping and grading are needed because of the slope. The adjacent soils that are less sloping may be better suited to this use.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are better suited to this use. Laterally moving effluent may seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

126A—Lima gravelly silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on footslopes and drumlins on broad glaciated uplands south of the Mohawk River, in the southern and central parts of the county. It generally occurs in areas that receive runoff from the higher adjacent soils. It formed in glacial till derived from limestone and calcareous shale. Areas of this map unit are mainly broad, roughly oval, elongated, or irregular in shape. They are as much as 590 acres in size but typically are less than 105 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsurface layer
7 to 12 inches, brown loam, 5 percent rock fragments

Subsoil
12 to 17 inches, dark brown gravelly silt loam with brown gravelly fine sandy loam on surfaces of peds, 15 percent rock fragments
17 to 28 inches, dark brown gravelly silt loam with a few olive yellow redoximorphic concentrations, 15 percent rock fragments

Substratum
28 to 47 inches, dark brown and dark grayish brown, firm gravelly silt loam, 25 percent rock fragments, slightly effervescent
47 to 72 inches, dark brown and dark grayish brown, firm very channery silt loam, 45 percent rock fragments, violently effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Honeoye and Lansing soils on knolls or in the higher areas
- Somewhat poorly drained Kendaia and poorly drained Lyons soils in depressions or the flatter areas that receive more runoff or along narrow drainageways. Some areas of these soils are identified on the soil map by a symbol for wet spots.
- Some areas of Conesus soils, which have carbonates below a depth of 32 inches
- A few areas of reddish Cazenovia soils, which have more clay in the subsoil than the Lima soil
- Small areas of Lima soils that have slopes of more than 3 percent

Soil Properties

Lima soil
Permeability: Moderate in the surface layer, subsurface layer, and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through slightly alkaline in the surface layer, subsurface layer, and subsoil and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. A few areas are used as woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the slow or very slow permeability in the dense substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

126B—Lima gravelly silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on footslopes, side slopes, and drumlins on broad glaciated uplands south of the Mohawk River, in the southern and central parts of the county. It formed in glacial till derived from limestone and calcareous shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 1,138 acres in size but typically are less than 275 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsurface layer
7 to 12 inches, brown loam, 5 percent rock fragments

Subsoil

12 to 17 inches, dark brown gravelly silt loam with brown gravelly fine sandy loam on surfaces of peds, 15 percent rock fragments

17 to 28 inches, dark brown gravelly silt loam with a few olive yellow redoximorphic concentrations, 15 percent rock fragments

Substratum

28 to 47 inches, dark brown and dark grayish brown, firm gravelly silt loam, 25 percent rock fragments, slightly effervescent

47 to 72 inches, dark brown and dark grayish brown, firm very channery silt loam, 45 percent rock fragments, violently effervescent

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Honeoye and Lansing soils on knolls or in the higher areas
- Somewhat poorly drained Kendaia and poorly drained Lyons soils in depressions or the flatter areas that receive more runoff or along narrow drainageways. Some areas of these soils are identified on the soil map by a symbol for wet spots.
- Some areas of Conesus soils, which have carbonates below a depth of 32 inches.
- A few areas of reddish Cazenovia soils, which have more clay in the subsoil than the Lima soil
- Small areas of Lima soils that have slopes of more than 8 percent

Soil Properties

Lima soil

Permeability: Moderate in the surface layer, subsurface layer, and subsoil and slow or very slow in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Moderately acid through slightly alkaline in the surface layer, subsurface layer, and subsoil and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. A few areas are used as woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland (fig. 10).

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. A system of surface and subsurface drains reduces the wetness. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Growing winter cover crops, using crop rotations, and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Figure 10.—Lima gravelly silt loam, 3 to 8 percent slopes, in the foreground, meets the requirements for prime farmland. The other soils in the picture do not meet the requirements. They are the strongly sloping Honeoye soils directly below the woods and moderately deep Manlius soils in the woods at the top of the hill.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the slow or very slow permeability in the dense substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

126C—Lima gravelly silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on side slopes and drumlins on broad glaciated uplands south of the Mohawk River, in the southern and central parts of the county. It formed in glacial till derived from limestone and calcareous shale. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 35 acres in size but typically are less than 13 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown gravelly silt loam, 15 percent rock fragments

Subsurface layer
7 to 12 inches, brown loam, 5 percent rock fragments

Subsoil
12 to 17 inches, dark brown gravelly silt loam with brown gravelly fine sandy loam on surfaces of peds, 15 percent rock fragments
17 to 28 inches, dark brown gravelly silt loam with a few olive yellow redoximorphic concentrations, 15 percent rock fragments

Substratum
28 to 47 inches, dark brown and dark grayish brown, firm gravelly silt loam, 25 percent rock fragments, slightly effervescent
47 to 72 inches, dark brown and dark grayish brown, firm very channery silt loam, 45 percent rock fragments, violently effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Honeoye and Lansing soils on knolls or in the higher areas
- Somewhat poorly drained Kendaia and poorly drained Lyons soils in depressions or the flatter areas that receive more runoff or along narrow drainageways. Some areas of these soils are identified on the soil map by a symbol for wet spots.
- Some areas of Conesus soils, which have carbonates below a depth of 32 inches
- A few areas of reddish Cazenovia soils, which have more clay in the subsoil than the Lima soil
- Small areas of Lima soils that have slopes of more than 15 percent

Soil Properties

Lima soil

Permeability: Moderate in the surface layer, subsurface layer, and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through slightly alkaline in the surface layer, subsurface layer, and subsoil and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are used for cultivated crops. A few areas are used as woodland or are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—The seasonal high water table, the slow or very slow permeability in the dense substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Less sloping, more permeable soils may be better suited to this use. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table, the potential for frost action, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. A drainage system is needed. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage. The roads should be designed so that they conform to the natural slope of the land.

The land capability subclass is 3e.

133B—Empeyville loam, 3 to 8 percent slopes, stony

This very deep, gently sloping, moderately well drained soil is in slight depressions and on broad hillsides and hilltops in the glaciated uplands, mostly in the northwestern part of the county, particularly on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 226 acres in size but typically are less than 62 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, root mat and highly decomposed organic material
1 to 3 inches, black loam, 5 percent rock fragments

Upper subsoil
3 to 11 inches, dark brown channery loam, 30 percent rock fragments
11 to 17 inches, dark brown channery fine sandy loam, 15 percent rock fragments

Subsurface layer
17 to 20 inches, dark yellowish brown fine sandy loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil
20 to 31 inches, yellowish brown, firm channery fine sandy loam, 20 percent rock fragments

Substratum
31 to 72 inches, yellowish brown cobbly fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Worth soils on the higher parts of the landscape
- In areas where the glacial till is more friable, spots of well drained Bice soils, which do not have a fragipan
- Somewhat poorly drained Westbury soils in depressions and on footslopes and toeslopes
- In elongated areas along drainageways and in the deeper depressions, spots of poorly drained Dannemora soils
- Some small areas where slopes are more than 8 percent

Soil Properties

Empeyville soil

Permeability: Moderate in the mineral surface layer, the upper subsoil, and the subsurface layer and moderate through very slow in the lower subsoil and in the substratum
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through slightly acid in the surface layer, very strongly acid through slightly acid in the subsurface layer and subsoil, and strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the dense subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

133C—Empeyville loam, 8 to 15 percent slopes, stony

This very deep, strongly sloping, moderately well drained soil is in slightly concave areas on hillsides and hilltops in glaciated uplands, mostly in the northwestern part of the county, particularly on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 69 acres in size but typically are less than 33 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, root mat and highly decomposed organic material
1 to 3 inches, black loam, 5 percent rock fragments

Upper subsoil

3 to 11 inches, dark brown channery loam, 30 percent rock fragments
11 to 17 inches, dark brown channery fine sandy loam, 15 percent rock fragments

Subsurface layer

17 to 20 inches, dark yellowish brown fine sandy loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil

20 to 31 inches, yellowish brown, firm channery fine sandy loam, 20 percent rock fragments

Substratum

31 to 72 inches, yellowish brown cobbly fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Worth soils on the higher parts of the landscape
- In areas where the glacial till is more friable, spots of well drained Bice soils, which do not have a fragipan
- Somewhat poorly drained Westbury soils in depressions and on footslopes and toeslopes
- A few small areas of poorly drained Dannemora soils along drainageways and in the deeper depressions
- Areas where slopes are more than 15 percent

Soil Properties

Empeyville soil

Permeability: Moderate in the mineral surface layer, the upper subsoil and the subsurface layer and moderate through very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through slightly acid in the surface layer, very strongly acid through slightly acid in the subsurface layer and subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, restricted permeability in the dense subsoil and substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of frost action and the seasonal high water table. Designing the roads so that they follow the contour of the slope as much as possible minimizes construction costs.

The land capability subclass is 3e.

136A—Kendaia silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad plains in the uplands. In most areas it is in the central and southern parts of the county. It formed in firm, calcareous glacial till. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 970 acres in size but typically are less than 120 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 10 percent rock fragments
13 to 32 inches, dark yellowish brown silt loam with many strong brown redoximorphic concentrations, 10 percent rock fragments

Substratum
32 to 38 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments, slightly effervescent
38 to 72 inches, dark brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Lima and Conesus soils on the higher parts of the landscape and on small knobs
- Poorly drained Lyons soils in depressions and along drainageways. These soils commonly are identified on the soil map by a symbol for wet spots.
- Soils that are more acid in the subsoil and substratum than the Kendaia soil
- In some areas having sandy deltaic deposits, somewhat poorly drained Minoa and poorly drained Lamson soils
- Somewhat poorly drained Niagara and poorly drained Canandaigua soils in some silty areas
- A few small areas where slopes are more than 3 percent

Soil Properties

Kendaia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum

Available water capacity (40-inch profile): Mainly high but moderate in some areas

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. Many areas are used as pasture, and some areas are used for cultivated crops or hay. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered when sites for absorption fields are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table and because of the potential for frost action, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

136B—Kendaia silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad plains in the uplands. In most areas it is in the central and southern parts of the county. It formed in firm, calcareous glacial till. Areas of this map unit are mainly broad, elongated, or irregular in shape. They are as much as 2,055 acres in size but typically are less than 250 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 10 percent rock fragments
13 to 32 inches, dark yellowish brown silt loam with many strong brown redoximorphic concentrations, 10 percent rock fragments

Substratum
32 to 38 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments, slightly effervescent
38 to 72 inches, dark brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Lima and Conesus soils on the higher parts of the landscape and on small knobs
- Poorly drained Lyons soils in depressions and along drainageways. These soils commonly are identified on the soil map by a symbol for wet spots.
- Soils that are more acid in the subsoil and substratum than the Kendaia soil
- In some areas having sandy deltaic deposits, somewhat poorly drained Minoa and poorly drained Lamson soils
- Somewhat poorly drained Niagara and poorly drained Canandaigua soils in some silty areas
- A few small areas where slopes are more than 8 percent

Soil Properties

Kendaia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Mainly high but moderate in some areas
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches
Index surface runoff: Very high

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. Many areas are used as pasture, and some areas are used for cultivated crops or hay. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered when sites for absorption fields are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table and because of the potential for frost action, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

144A—Westbury silt loam, 0 to 3 percent slopes, stony

This very deep, nearly level, somewhat poorly drained soil is in flat areas, depressions, and slightly concave areas on broad glaciated uplands, mostly in the northwestern part of the county, on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. A dense fragipan is in the lower part of the subsoil. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, oblong, or irregular in shape. They range from 4 to 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves and twigs
1 to 3 inches, black, highly decomposed organic material
3 to 8 inches, very dark brown silt loam, 10 percent rock fragments

Subsoil

8 to 18 inches, dark yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 10 percent rock fragments
18 to 20 inches, brown fine sandy loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments
20 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments

Substratum

40 to 72 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the higher parts of the landscape, well drained Worth and moderately well drained Empeyville soils
- Poorly drained Dannemora soils in depressions and along drainageways
- In the deeper depressions, a few spots of Wonsqueak soils, which have organic deposits that are 16 to 51 inches thick
- A few areas of Camroden soils, which are similar to the Westbury soil but have more silt and very fine sand in the subsurface layer
- A few areas where slopes are more than 3 percent

Soil Properties

Westbury soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or very slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer and the upper part of the subsoil and very strongly acid through moderately acid in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay or are covered with brush and weeds. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the potential for frost action, and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

144B—Westbury silt loam, 3 to 8 percent slopes, stony

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad glaciated uplands, mainly in the northwestern part of the county, on the Tug Hill Plateau. It is at an elevation of more than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. A dense fragipan is in the lower part of the subsoil. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 351 acres in size but typically are less than 80 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves and twigs
1 to 3 inches, black, highly decomposed organic material
3 to 8 inches, very dark brown silt loam, 10 percent rock fragments

Subsoil

8 to 18 inches, dark yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 10 percent rock fragments
18 to 20 inches, brown fine sandy loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments
20 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments

Substratum

40 to 72 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the higher parts of the landscape, well drained Worth and moderately well drained Empeyville soils
- Poorly drained Dannemora soils in depressions and along drainageways
- In the deeper depressions, a few spots of Wonsqueak soils, which have organic deposits that are 16 to 51 inches thick
- A few areas of Camroden soils, which are similar to the Westbury soil but have more silt and very fine sand in the subsurface layer
- A few areas where slopes are more than 8 percent

Soil Properties

Westbury soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or very slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through moderately acid in the surface layer and the upper part of the subsoil and very strongly acid through moderately acid in the lower part of the subsoil and in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay or are covered with brush and weeds. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the potential for frost action, and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

146—Lyons silt loam

This very deep, nearly level soil is in shallow depressions and along narrow drainageways in the glaciated uplands, mostly south of the Mohawk River, except for some areas in the towns of Trenton, Deerfield, and Marcy. The soil generally is poorly drained but is very poorly drained in some areas. It formed in calcareous glacial till. Areas of this map unit are mainly elongated, long and narrow, or oval. They are as much as 586 acres in size but typically are less than 50 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, black silt loam, 10 percent rock fragments

Subsoil

9 to 15 inches, dark grayish brown silt loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments

15 to 21 inches, gray, firm silt loam with common strong brown and yellowish brown redoximorphic concentrations, 10 percent rock fragments

21 to 30 inches, gray, firm gravelly silt loam with a few brownish yellow redoximorphic concentrations, 15 percent rock fragments, slightly effervescent

Substratum

30 to 72 inches, dark gray, firm gravelly silt loam with a few dark yellowish brown redoximorphic concentrations, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Lyons soil, small areas of Canandaigua soils, which formed in water-sorted silty deposits, and somewhat poorly drained Manheim and Kendaia soils
- Moderately well drained Lima and Conesus soils in the higher areas
- In the deeper depressions, small areas of Palms and Carlisle soils, which formed in organic deposits
- Spots of Chippewa soils in areas where the glacial till is more acid and the subsoil has a fragipan

• In the town of Deerfield, several spots of Lyons soils in areas of the frigid soil temperature regime at an elevation of more than 1,000 feet

Soil Properties

Lyons soil

Permeability: Moderate or moderately slow in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and neutral through strongly alkaline in the substratum
Seasonal high water table: 0.5 foot above to 0.5 below the surface from November through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used as pasture or woodland.

Cropland.—This unit is generally not suited to cultivated crops because of wetness caused by the seasonal high water table. Erosion from the higher areas nearby sometimes deposits sediment on this soil. The sediment can bury seeds and keep them from growing. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness caused by the seasonal high water table. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of fertilizer increase forage yields.

Dwellings.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and ponding, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

150—Tughill mucky silt loam, stony

This very deep, nearly level, very poorly drained soil is in depressions on uplands. It occurs mostly in the northern part of the county, at an elevation of more than 1,000 feet. The soil formed in glacial till. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this map unit are mainly broad, oblong, elongated, or irregular in shape. They are as much as 211 acres in size but typically are less than 60 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, black muck
8 to 12 inches, very dark gray cobbly silt loam, 15 percent rock fragments

Subsurface layer
12 to 16 inches, gray cobbly silt loam with a few grayish brown redoximorphic depletions, 20 percent rock fragments

Subsoil
16 to 30 inches, light brownish gray, firm very cobbly silt loam with common brownish yellow redoximorphic concentrations, 35 percent rock fragments

Substratum
30 to 72 inches, gray, firm very cobbly silt loam, 40 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Poorly drained Marcy and Dannemora soils
- Somewhat poorly drained Camroden and Westbury and moderately well drained Empeyville and Pinckney soils on the slightly higher landforms. These soils do not have a thick organic surface layer.
- Fluvaquents near streams and along drainageways
- Some areas of Wonsqueak soils, which have organic deposits that are 16 to 51 inches thick
- Particularly in the northeastern part of the county, soils that have fewer rock fragments than the Tughill soil and are slightly finer textured
- Some spots of well drained Bice soils on the higher knolls
- Where mapped adjacent to Pyrities soils, Tughill soils that tend to be less acid than the typical Tughill soil

Soil Properties

Tughill soil

Permeability: Moderately rapid in the organic surface layer, moderate in the mineral surface layer and in the subsurface layer, moderately slow in the subsoil, and slow or very slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Extremely acid through strongly acid in the surface layer and subsurface layer, extremely acid through slightly acid in the subsoil, and moderately acid through neutral in the substratum
Seasonal high water table: 1.0 foot above to 0.5 foot below the surface from November through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit occur as wet woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used as pasture.

Cropland.—This unit is generally not suited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is generally unsuited to pasture because of ponding and wetness caused by the seasonal high water table.

Dwellings.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and ponding, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

151—Chippewa silt loam

This very deep, nearly level, poorly drained soil is in shallow depressions, along narrow drainageways, and in concave areas on broad glaciated uplands. It occurs mostly south of the Mohawk River, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from siltstone, sandstone, and shale. The subsoil has a dense fragipan. Areas of this map unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 102 acres in size but typically are less than 22 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown silt loam, 5 percent rock fragments

Upper subsoil

7 to 14 inches, dark grayish brown silt loam with common yellowish brown redoximorphic concentrations, 5 percent rock fragments

Subsurface layer

14 to 16 inches, dark gray, firm silt loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments

Lower subsoil

16 to 42 inches, dark grayish brown, very firm channery silt loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Substratum

42 to 72 inches, brown, very firm channery silt loam with a few dark yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin and somewhat poorly drained Venango soils on the higher or more convex parts of the landscape
- Some areas of very poorly drained Chippewa soils
- Small areas of very poorly drained Palms soils, which have organic deposits more than 16 inches thick

Soil Properties

Chippewa soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil and in the substratum
Available water capacity (40-inch profile): Very low or low
Soil reaction: Very strongly acid through slightly acid in the surface layer, the upper subsoil, and the subsurface layer; strongly acid through neutral in the lower subsoil; and moderately acid through slightly alkaline in the substratum
Seasonal high water table: 0.5 foot above to 0.5 below the surface from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used as pasture.

Cropland.—This unit is generally not suited to cultivated crops because of wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness caused by the seasonal high water table. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of fertilizer increase forage yields.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the dense subsoil and substratum, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the slow or very slow permeability in the dense subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and the dense subsoil and substratum, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. The dense soil layers may increase construction costs during site preparation. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

152B—Farmington silt loam, 2 to 8 percent slopes

This shallow, gently sloping, well drained soil is on broad bedrock-controlled benches and ridges in the uplands, mainly in the southern and eastern parts of the county. It formed in a thin mantle of glacial till derived from limestone and is underlain by limestone bedrock, which is fractured in some areas. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 157 acres in size but typically are less than 64 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
4 to 8 inches, dark yellowish brown silt loam, 5 percent rock fragments
8 to 14 inches, brown silt loam, 10 percent rock fragments

Bedrock
14+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Farmington soil, moderately deep Galway soils
- Small areas of very deep Honeoye and Nellis soils along the edge of the unit
- Small areas of Arnot soils, which overlie sandstone bedrock and are more acid than the Farmington soil
- Wetter soils and seep spots. Some of these areas are identified on the soil map by a symbol for wet spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of soils that are underlain by hard shale bedrock
- Small areas of Farmington soils that have slopes of more than 8 percent

Soil Properties

Farmington soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low or low
Soil reaction: Strongly acid through neutral in the surface layer and moderately acid through slightly alkaline in the subsoil
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used for woodland, cultivated crops, or hay. A few areas are used as pasture or are idle and are covered with brush and weeds.

Cropland.—This unit is moderately suited to cultivated crops. The shallow depth to bedrock and the associated restricted rooting depth and low or very low available water capacity are the main limitations. In some areas the content of rock fragments and occasional rock outcrops are additional management concerns. The best suited crops and crop varieties are those that mature early in the growing season, when more moisture is available, and those that are shallow rooted and can withstand droughty conditions. Contact with rock fragments and with bedrock can cause excessive wear of farm machinery.

Pasture.—This unit is suited to pasture, but it is limited by the shallow depth to bedrock and the droughtiness caused by the low or very low available water capacity. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control, applications of fertilizer, and in a few areas applications of lime increase forage yields.

Dwellings.—Because of the shallow depth to bedrock, this unit is very limited as a site for dwellings. Most of the bedrock is hard limestone, which cannot be ripped easily. Construction may be more feasible on the deeper soils nearby. Where dwellings are constructed on this unit, those without basements require less extensive site alteration and can be built above the bedrock in some areas. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock, this unit is very limited as a site for conventional septic tank absorption fields. Inadequate filtration and the contamination of ground water can occur. In some areas adding fill material can minimize these limitations. In many areas specially designed onsite sewage disposal systems are needed to overcome the shallow depth and to prevent the contamination of ground water. The bedrock may have fractures and solution cavities. Lansing and other adjacent soils that are very deep to bedrock are limited by slow permeability, but they are better suited to septic systems than the Farmington soil. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3s.

153C—Farmington-Rock outcrop complex, 8 to 15 percent slopes

This unit consists of a shallow, strongly sloping, well drained Farmington soil and numerous outcrops of bedrock. It occurs mainly on bedrock-controlled ridges and benches on uplands in the southern part of the county. The Farmington soil formed in a thin mantle of glacial till derived from limestone and is underlain by limestone bedrock, which is fractured in some areas. Areas of this unit are mainly elongated, long and narrow, roughly oval, or irregular in shape. They are as much as 101 acres in size but typically are less than 34 acres. The unit is about 50 percent Farmington soil, 25 percent rock outcrop, and 25 percent included soils. The Farmington soil and rock outcrop occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Farmington soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
4 to 8 inches, dark yellowish brown silt loam, 5 percent rock fragments
8 to 14 inches, brown silt loam, 10 percent rock fragments

Bedrock
14+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Galway soils, which have bedrock at a depth of 20 to 40 inches, and Honeoye and Nellis soils, which have bedrock at a depth of more than 6 feet
- Small areas of Arnot soils, which overlie sandstone bedrock and are more acid than the Farmington soil
- Wetter soils and seep spots. Some of these areas are identified on the soil map by a symbol for wet spots.
- Some areas of soils that are underlain by hard shale bedrock
- Small areas where slopes are more than 15 percent

Soil Properties

Farmington soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low or low
Soil reaction: Strongly acid through neutral in the surface layer and moderately acid through slightly alkaline in the subsoil
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 and 20 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is not suited to cultivated crops in most areas because of the rock outcrops and the shallow depth to bedrock, both of which limit the use of equipment. The low or very low available water capacity also is a limitation.

Pasture.—This unit is suited to pasture. The rock outcrops, the shallow depth to bedrock, and the low or very low available water capacity are management concerns. The rock outcrops limit the use of equipment. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Droughtiness is often a problem during extended dry periods. The depth to bedrock restricts the root growth of legumes, which are susceptible to damage or death from frost heaving. Rotational grazing and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control increases forage yields. Where the use of equipment is practical, applications of fertilizer also can increase forage yields. In some areas conservation tillage is helpful when pastures are renovated.

Dwellings.—Because of the shallow depth to bedrock and numerous rock outcrops, this unit is very limited as a site for dwellings. Most of the bedrock is hard limestone, which cannot be ripped easily. Construction may be more feasible on the deeper soils nearby. Where dwellings are constructed on this unit, those without basements require less extensive site alteration and can be built above the bedrock in some areas. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock and numerous rock outcrops, this unit is very limited as a site for conventional septic tank absorption fields. Inadequate filtration and the contamination of ground water can occur. In some areas adding fill material can minimize these limitations. In many areas specially designed onsite sewage disposal systems are needed to overcome the shallow depth and to prevent the contamination of ground water. The bedrock may have fractures and solution cavities. The adjacent soils that are very deep to bedrock, such as Lansing soils, are better suited to septic systems than the Farmington soil. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock and numerous rock outcrops, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of these limitations in some areas.

Land capability classification: Farmington soil—6s; Rock outcrop—8.

153D—Farmington-Rock outcrop complex, 15 to 25 percent slopes

This unit consists of a shallow, moderately steep, well drained Farmington soil and numerous outcrops of bedrock. It is mainly on bedrock-controlled ridges and benches on uplands in the southern part of the county. The Farmington soil formed in a thin mantle of glacial till derived from limestone and is underlain by limestone bedrock, which is fractured in some areas. Areas of this unit are mainly elongated, long, or irregular in shape. They are as much as 97 acres in size but typically are less than 24 acres. The unit is about 45 percent Farmington soil, 35 percent rock outcrop, and 20 percent included soils. The Farmington soil and rock outcrop occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Farmington soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
4 to 8 inches, dark yellowish brown silt loam, 5 percent rock fragments
8 to 14 inches, brown silt loam, 10 percent rock fragments

Bedrock
14+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Galway soils, which have bedrock at a depth of 20 to 40 inches, and Honeoye and Nellis soils, which have bedrock at a depth of more than 6 feet
- Small areas of Arnot soils, which overlie sandstone bedrock and are more acid than the Farmington soil
- Wetter soils and seep spots. Some of these areas are identified on the soil map by a symbol for wet spots.
- Some areas of soils that are underlain by hard shale bedrock
- Small areas where slopes are more than 25 percent

Soil Properties

Farmington soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low or low
Soil reaction: Strongly acid through neutral in the surface layer and moderately acid through slightly alkaline in the subsoil
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. A few areas are used for pasture or hay.

Cropland.—This unit is generally not suited to cultivated crops because of the rock outcrops, the shallow depth to bedrock, and the hazard of erosion caused by moderately steep slopes. The low or very low available water capacity also is a limitation. The use of equipment commonly is limited and hazardous because of the rock outcrops, the depth to bedrock, and the moderately steep slopes.

Pasture.—This unit is generally not suited to pasture because of the rock outcrops, the shallow depth to bedrock, and the moderately steep slopes. The low or very low available water capacity also is a limitation. The rock outcrops and moderately steep slopes limit the use of equipment. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Droughtiness is often a problem during extended dry periods. The depth to bedrock restricts the root growth of legumes, which are susceptible to damage or death from frost heaving. Rotational grazing and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control increases forage yields. Where the use of equipment is practical, applications of fertilizer also can increase forage yields.

Dwellings.—Because of the shallow depth to bedrock, the numerous rock outcrops, and the moderately steep slopes, this unit is very limited as a site for dwellings. The adjacent soils that are deeper to bedrock and less sloping are better sites for dwellings. Most of the bedrock is hard limestone, which cannot be ripped easily. Where dwellings are constructed on this unit, those without basements require less extensive site alteration and can be built above the bedrock in some areas. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock, the numerous rock outcrops, and the moderately steep slopes, this unit is very limited as a site for conventional septic tank absorption fields. Inadequate filtration and the contamination of ground water can occur. In some areas adding fill material can minimize these limitations. In many areas specially designed onsite sewage disposal systems are needed to overcome the shallow depth and to prevent the contamination of ground water. The bedrock may have fractures and solution cavities. The very deep, less sloping adjacent soils, such as Lansing soils, are better suited to septic systems than the Farmington soil. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock and the numerous rock outcrops, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads along the contour of the slope and on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of these limitations in some areas.

Land capability classification: Farmington soil—6s; Rock outcrop—8.

155—Dannemora gravelly fine sandy loam, stony

This very deep, nearly level, poorly drained soil is in shallow depressions and concave areas on glaciated uplands. It occurs mainly in areas at an elevation of more than 1,000 feet in the northwestern part of the county. It formed in glacial till made up largely of sandstone and to a lesser extent other acid rocks. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 111 acres in size but typically are less than 50 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, very dark gray gravelly fine sandy loam, 20 percent rock fragments

Subsurface layer

8 to 11 inches, light brownish gray gravelly fine sandy loam with common grayish brown redoximorphic depletions, 20 percent rock fragments

Subsoil

11 to 16 inches, grayish brown gravelly fine sandy loam with many yellowish brown and dark yellowish brown redoximorphic concentrations, 25 percent rock fragments

16 to 42 inches, dark grayish brown, very firm very gravelly fine sandy loam with common olive brown redoximorphic concentrations, 40 percent rock fragments

Substratum

42 to 72 inches, dark grayish brown, very firm very gravelly fine sandy loam with brown redoximorphic concentrations and a few black organic accumulations, 45 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Empeyville and somewhat poorly drained Westbury soils on the slightly higher parts of the landscape
- Some areas of soils that do not have a fragipan in the subsoil
- Very poorly drained Wonsqueak soils in the deeper depressions. These soils have organic deposits that are 16 to 51 inches thick.
- Small areas of Marcy soils, which formed in material weathered from shale or siltstone and are finer textured than the Dannemora soil

Soil Properties

Dannemora soil

Permeability: Moderate or moderately rapid in the mineral surface layer, the subsurface layer, and the upper part of the subsoil and slow or very slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Very low or low

Soil reaction: Extremely acid through moderately acid in the surface layer, the subsurface layer, and the upper part of the subsoil; very strongly acid through slightly acid in the lower part of the subsoil; and very strongly acid through neutral in the substratum

Depth to a seasonal high water table: At the surface to 0.5 foot below the surface from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are idle and support water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is generally not suited to cultivated crops because of wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered. If the soil is cultivated, minimum tillage, cover crops, incorporation of crop residue into the soil, and crop rotations improve tilth and help to maintain the content of organic matter.

Pasture.—This unit is poorly suited to pasture because of wetness caused by the seasonal high water table. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of fertilizer increase forage yields.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table and because of the dense subsoil and substratum, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table and because of the restricted permeability in the dense subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and the dense subsoil and substratum, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. The dense soil layers may increase construction costs during site preparation. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w.

156B—Lairdsville silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, well drained soil is on bedrock-controlled glacial till uplands, mainly in the southern part of the county. It formed in clayey glacial till derived mainly from shale bedrock. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 62 acres in size but typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark reddish gray silt loam

Subsoil
8 to 16 inches, reddish brown silty clay loam
16 to 23 inches, reddish brown, firm silty clay loam, 5 percent pale green, weathered shale fragments

Substratum
23 to 26 inches, dark reddish brown, weathered shale bedrock

Bedrock
26+ inches, dark reddish brown, hard shale bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Greene and shallow, poorly drained Tuller soils in depressions, on footslopes, and on toeslopes
- Some areas of moderately well drained Lairdsville soils
- Some areas of Galway soils, which have less clay in the subsoil than the Lairdsville soil
- On the same landscape as the Lairdsville soil, a few areas of moderately well drained Aurora soils. These soils have less clay in the subsoil than the Lairdsville soil.

- Some small areas of very deep Cazenovia soils
- A few areas where slopes are more than 8 percent

Soil Properties

Lairdsville soil

Permeability: Moderate in the surface layer and very slow in the subsoil and substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and neutral through moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are covered with brush or weeds, and a few are used as woodland.

Cropland.—This unit is suited to most of the cultivated crops commonly grown in the county. In some areas planting or harvesting is delayed during extended wet periods. Shale fragments on the surface may cause excessive wear of farm machinery. Erosion is a hazard in the steeper areas and on long slopes. It can be controlled by conservation tillage, stripcropping, and contour farming. Growing winter cover crops, returning crop residue to the soil, and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Exclusion of livestock and equipment during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of fertilizer, weed control, and in some areas applications of lime can increase forage yields.

Dwellings.—The depth to soft bedrock and the shrink-swell potential somewhat limit the use of this unit as a site for dwellings with basements. Reinforcement of concrete is especially important because of the shrink-swell potential. Constructing the dwellings above the bedrock and landscaping with additional fill help to overcome the depth to bedrock in some areas.

Septic tank absorption fields.—Because of the very slow permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are more permeable and deeper to bedrock should be considered when suitable sites are selected. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2e.

156C—Lairdsville silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, well drained soil is on bedrock-controlled glacial till uplands, mainly in the southern part of the county. It formed in clayey glacial till derived mainly from shale bedrock. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 58 acres in size but typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark reddish gray silt loam

Subsoil
8 to 16 inches, reddish brown silty clay loam
16 to 23 inches, reddish brown, firm silty clay loam, 5 percent pale green, weathered shale fragments

Substratum
23 to 26 inches, dark reddish brown, weathered shale bedrock

Bedrock
26+ inches, dark reddish brown, hard shale bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Greene and shallow, poorly drained Tuller soils in depressions, on footslopes, and on toeslopes
- Some areas of moderately well drained Lairdsville soils
- On some limestone-controlled landforms, Galway soils, which have less clay in the subsoil than the Lairdsville soil
- On the same landscape as the Lairdsville soil, a few areas of moderately well drained Aurora soils. These soils have less clay in the subsoil than the Lairdsville soil.
- Some small areas of very deep Cazenovia soils
- A few areas where slopes are more than 15 percent

Soil Properties

Lairdsville soil

Permeability: Moderate in the surface layer and very slow in the subsoil and substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and neutral through moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are covered with brush or weeds, and a few are used as woodland.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In some areas planting or harvesting is delayed during extended wet periods. Shale fragments on the surface may cause excessive wear of farm machinery. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Exclusion of livestock and equipment during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of fertilizer, weed control, and in some areas applications of lime can increase forage yields.

Dwellings.—The depth to soft bedrock, the shrink-swell potential, and excessive slope somewhat limit the use of this unit as a site for dwellings with basements. Reinforcement of concrete is especially important because of the shrink-swell potential. In some areas constructing the dwellings above the bedrock and grading or landscaping with additional fill material can reduce the adverse effects caused by the depth to bedrock and the slope.

Septic tank absorption fields.—Because of the very slow permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils that are more permeable and deeper to bedrock should be considered when suitable sites are selected. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3e.

156E—Lairdsville silt loam, 25 to 45 percent slopes

This moderately deep, steep and very steep, well drained soil is on bedrock-controlled glacial till uplands, mainly in the southern part of the county. It formed in clayey glacial till derived mainly from shale bedrock. Areas of this map unit are mainly long and narrow or irregular in shape. They are as much as 50 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark reddish gray silt loam

Subsoil
8 to 16 inches, reddish brown silty clay loam
16 to 23 inches, reddish brown, firm silty clay loam, 5 percent pale green, weathered shale fragments

Substratum
23 to 26 inches, dark reddish brown, weathered shale bedrock

Bedrock
26+ inches, dark reddish brown, hard shale bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Soils that have bedrock at a depth of less than 20 inches
- Some areas of moderately well drained Lairdsville soils
- Somewhat poorly drained Greene and shallow, poorly drained Tuller soils in some depressions, on the flatter benches, and on toeslopes
- On some limestone-controlled landforms, Galway soils, which have less clay in the subsoil than the Lairdsville soil
- On the same landscape as the Lairdsville soil, a few areas of moderately well drained Aurora soils. These soils have less clay in the subsoil than the Lairdsville soil.
- Some small areas of very deep Cazenovia soils

Soil Properties

Lairdsville soil

Permeability: Moderate in the surface layer and very slow in the subsoil and substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and neutral through moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with brush or weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope severely limits the operation of equipment.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Some of the less sloping areas can be used as permanent pasture. Applications of fertilizer and weed control can increase forage yields in the less sloping areas. Conservation tillage may be helpful during pasture renovation in some areas. Excessive slope limits the safe operation of farm machinery.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping are better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Because of excessive slope and the very slow permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils that are more permeable and deeper to bedrock should be considered when suitable sites are selected. State and local health codes may prohibit the installation of conventional systems because of excessive slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope and low strength, this unit is very limited as a site for local roads and streets. Alternate routes for roads should be considered. Designing the roads so that they conform to the natural slope of the land and establishing grades that minimize the removal of bedrock, cutting, and filling reduce construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of low strength.

The land capability subclass is 7e.

162B—Ischua silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, moderately well drained soil is on the hilltops and hillsides of bedrock-controlled landscapes in the town of Deerfield, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived primarily from shale and siltstone and from small amounts of sandstone. Generally, areas of this map unit are roughly oval or irregular in shape. They range from 6 to 35 acres in size and typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 3 inches, dark brown silt loam, 5 percent rock fragments
3 to 6 inches, brown silt loam, 5 percent rock fragments

Subsoil
6 to 18 inches, yellowish brown silt loam, 10 percent rock fragments
18 to 23 inches, brownish yellow channery silt loam with a few yellowish brown redoximorphic concentrations, 20 percent rock fragments
23 to 33 inches, brown, firm very channery silt loam with common grayish brown redoximorphic depletions, 35 percent rock fragments in the upper part to 50 percent in the lower part

Substratum
33 to 39 inches, brown, firm extremely channery silt loam, 60 percent very dark gray shale particles

Bedrock
39+ inches, moderately hard shale bedrock, horizontally bedded

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Well drained Mongaup soils and shallow, somewhat excessively drained soils on the slightly higher landforms and on ridgetops
- Areas of exposed bedrock and areas of soils that have more than 25 percent shale fragments in the surface layer
- Somewhat poorly drained Gretor soils in the flatter areas and in slight depressions
- In areas where the glacial till is deeper to bedrock, somewhat poorly drained Manheim soils (cool phase) and Kendaia soils (cool phase) on the slightly lower landforms and on toeslopes

- A few small areas where slopes are less than 3 percent and areas where slopes are more than 8 percent

Soil Properties

Ischua soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used for pasture or hay. Some areas are used as woodland or are covered with brush and weeds. A few areas are used for cultivated crops. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is generally well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting is delayed during extended wet periods. In the deeper, wetter parts of the unit, a system of surface and subsurface drains reduces the wetness. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. A few areas have bedrock outcrops, which should be avoided during cultivation. Droughtiness may be a problem during prolonged dry periods in a few of the shallower parts of the unit. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Exclusion of livestock and equipment during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. Dwellings without basements require less costly site preparation and can be built above the bedrock. Also, the sites for these dwellings can be landscaped with additional fill. In some areas installing interceptor drains reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table, the depth to bedrock, and the moderately slow or slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. The adjacent soils that are deeper to bedrock and better drained should be considered when suitable sites are selected. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, and the depth to bedrock somewhat limit the use of this unit as a site for local roads and streets. Properly planning the road grades and locations minimizes the need for removal of the bedrock. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of frost action and wetness.

The land capability subclass is 2e.

162C—Ischua silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, moderately well drained soil is on the hilltops and hillsides of bedrock-controlled landscapes in the town of Deerfield, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived primarily from shale and siltstone and from small amounts of sandstone. Areas of this map unit are mainly elongated, broad, or irregular in shape. They are as much as 403 acres in size but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 3 inches, dark brown silt loam, 5 percent rock fragments
3 to 6 inches, brown silt loam, 5 percent rock fragments

Subsoil
6 to 18 inches, yellowish brown silt loam, 10 percent rock fragments
18 to 23 inches, brownish yellow channery silt loam with a few yellowish brown redoximorphic concentrations, 20 percent rock fragments
23 to 33 inches, brown very channery silt loam with common grayish brown redoximorphic depletions, 35 percent rock fragments in the upper part to 50 percent in the lower part

Substratum
33 to 39 inches, brown, firm extremely channery silt loam, 60 percent very dark gray shale particles

Bedrock
39+ inches, moderately hard shale bedrock, horizontally bedded

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Mongaup soils and shallow, somewhat excessively drained soils on the slightly higher landforms and on ridgetops
- Areas of exposed bedrock and areas of soils that have more than 25 percent shale fragments in the surface layer
- Somewhat poorly drained Gretor soils in the flatter areas and in slight depressions
- In areas where the glacial till is deeper to bedrock, somewhat poorly drained Manheim soils (cool phase) and Kendaia soils (cool phase) on the slightly lower landforms and on toeslopes
- A few small areas where slopes are more than 15 percent

Soil Properties

Ischua soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In some areas planting or harvesting is delayed during extended wet periods. In the deeper, wetter parts of the unit, a system of surface and subsurface drains reduces the wetness. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. A few areas have bedrock outcrops, which should be avoided during cultivation. Droughtiness may be a problem during prolonged dry periods in a few of the shallower parts of the unit. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Exclusion of livestock and equipment during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. Dwellings without basements require less costly site preparation and can be built above the bedrock. Also, the sites for these dwellings can be landscaped with additional fill. In some areas installing interceptor drains reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table, depth to bedrock, excessive slope, and the moderately slow or slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. The adjacent soils that are deeper to bedrock, less sloping, and better drained should be considered when suitable sites are selected. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent and can reduce the adverse effects of the restricted permeability. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, excessive slope, and the depth to bedrock somewhat limit the use of this unit as a site for local roads and streets. Properly planning road grades and routes allows the roads to follow the contour of the slope and minimizes the need for removal of the bedrock. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of frost action and wetness.

The land capability subclass is 3e.

162D—Ischua silt loam, 15 to 25 percent slopes

This moderately deep, moderately steep, moderately well drained soil is on the hillsides and side slopes of bedrock-controlled landscapes in the town of Deerfield, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived primarily from shale and siltstone and from small amounts of sandstone. Areas of this map unit are mainly elongated or irregular in shape. They are as much as 75 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 3 inches, dark brown silt loam, 5 percent rock fragments
3 to 6 inches, brown silt loam, 5 percent rock fragments

Subsoil
6 to 18 inches, yellowish brown silt loam, 10 percent rock fragments
18 to 23 inches, brownish yellow channery silt loam with a few yellowish brown redoximorphic concentrations, 20 percent rock fragments
23 to 33 inches, brown very channery silt loam with common grayish brown redoximorphic depletions, 35 percent rock fragments in the upper part to 50 percent in the lower part

Substratum
33 to 39 inches, brown, firm extremely channery silt loam, 60 percent very dark gray shale particles

Bedrock
39+ inches, moderately hard shale bedrock, horizontally bedded

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Mongaup soils and shallow, somewhat excessively drained soils on the slightly higher landforms and on ridgetops
- Areas of exposed bedrock and areas of soils that have more than 25 percent shale fragments in the surface layer
- Somewhat poorly drained Gretor soils in the flatter areas
- In areas where the glacial till is deeper to bedrock, somewhat poorly drained Manheim soils (cool phase) and Kendaia soils (cool phase) on the slightly lower landforms and on toeslopes

Soil Properties

Ischua soil

Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. In some areas planting or harvesting is delayed during extended wet periods. In the deeper, wetter parts of the unit, a system of surface and subsurface drains reduces the wetness. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. A few areas have bedrock outcrops, which should be avoided during cultivation. Droughtiness may be a problem during prolonged dry periods in a few of the shallower parts of the unit. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Exclusion of livestock and equipment during wet periods, proper stocking rates, and rotational grazing can minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields

Dwellings.—Because of excessive slope, wetness caused by the seasonal high water table, and the depth to bedrock, this unit is very limited as a site for dwellings with basements. Dwellings without basements require less costly site preparation and can be built above the bedrock. Also, the sites for these dwellings can be landscaped with additional fill that is contoured along the slope of the land. In some areas installing interceptor drains reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent areas that are less sloping, deeper to bedrock, more permeable, and better drained should be considered when suitable sites are selected. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope, depth to bedrock, or wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land can reduce construction and maintenance costs. The roads should be constructed on raised additions of coarse grained subgrade and base material to frost depth. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

168B—Manlius channery silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, well drained soil is on glaciated uplands that are bedrock controlled. It is mainly in the southern part of the county but also occurs north of the Mohawk River. It formed in glacial till derived mainly from the underlying shale and siltstone bedrock. Areas of this map unit are mainly elongated, roughly oval, oblong, or irregular in shape. They are as much as 96 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown channery silt loam, 25 percent rock fragments

Subsoil

7 to 14 inches, very dark grayish brown and brown very channery silt loam, 40 percent rock fragments

14 to 24 inches, dark yellowish brown very channery silt loam, 50 percent rock fragments

Substratum

24 to 28 inches, dark yellowish brown, firm extremely channery silt loam with a few yellowish brown redoximorphic concentrations, 60 percent rock fragments

Bedrock

28+ inches, very dark gray shale and fine grained siltstone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Exposed bedrock and soils that have more than 25 percent shale fragments in the surface layer
- Some areas of soils that have less than 35 percent rock fragments above the bedrock
- Some areas of somewhat excessively drained and excessively drained Manlius soils
- Somewhat poorly drained, moderately deep Greene and shallow, well drained Arnot soils on the flatter ridgetops and in slight depressions
- Very deep, moderately well drained Conesus and very deep, somewhat poorly drained Kendaia soils on the slightly lower landforms and on some toeslopes. These soils are in areas where the glacial till is deeper to bedrock.
- Areas where slopes are more than 8 percent

Soil Properties

Manlius soil

Permeability: Moderate or moderately rapid throughout the mineral soil

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum

Seasonal high water table: None above the bedrock

Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used as woodland, hayland, or pasture. Some areas are covered with weeds or brush. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately well suited to cultivated crops because of the depth to bedrock. In some areas cultivation may be difficult because of erratic bedrock outcrops. Droughtiness may be a problem during extended dry periods because of the low available water capacity. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter, improve tilth, and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods because of the low available water capacity. Excluding livestock from the pasture during these periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Constructing the dwellings above the bedrock and landscaping with additional fill help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and in places the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Ground water can be contaminated because of the fractured nature of the bedrock. The adjacent soils that are very deep to bedrock may be better suited. Enlarging the absorption field can increase the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Properly planned road locations and grades can minimize the need for removal of the bedrock, avoid areas of bedrock outcrops, and thus reduce construction costs. Additions of coarse grained subgrade material to frost depth reduce the potential for frost damage.

The land capability subclass is 2s.

168C—Manlius channery silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, well drained soil is on glaciated uplands that are bedrock controlled. It is mainly in the southern part of the county but also occurs north of the Mohawk River. It formed in glacial till derived mainly from the underlying shale and siltstone bedrock. Areas of this map unit are mainly elongated, oblong, or irregular in shape. They are as much as 124 acres in size but typically are less than 55 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown channery silt loam, 25 percent rock fragments

Subsoil

7 to 14 inches, very dark grayish brown and brown very channery silt loam, 40 percent rock fragments

14 to 24 inches, dark yellowish brown very channery silt loam, 50 percent rock fragments

Substratum

24 to 28 inches, dark yellowish brown, firm extremely channery silt loam with a few yellowish brown redoximorphic concentrations, 60 percent rock fragments

Bedrock

28+ inches, very dark gray shale and fine grained siltstone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Exposed bedrock and soils that have more than 25 percent shale fragments in the surface layer
- Some areas of soils that have less than 35 percent rock fragments above the bedrock
- Some areas of somewhat excessively drained and excessively drained Manlius soils
- Somewhat poorly drained, moderately deep Greene and shallow, well drained Arnot soils on the flatter ridgetops and in slight depressions
- Very deep, moderately well drained Conesus and very deep, somewhat poorly drained Kendaia soils on the slightly lower landforms and on some toeslopes. These soils are in areas where the glacial till is deeper to bedrock.
- Areas where slopes are more than 15 percent

Soil Properties

Manlius soil

Permeability: Moderate or moderately rapid throughout the mineral soil

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum

Seasonal high water table: None above the bedrock

Flooding: None

Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used as woodland, hayland, or pasture. Some areas are covered with weeds or brush. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In some areas cultivation may be difficult because of erratic bedrock outcrops. Droughtiness may be a problem during extended dry periods because of the low available water capacity. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods because of the low available water capacity. Excluding livestock from the pasture during these periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Constructing the dwellings above the bedrock and landscaping with additional fill help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock, excessive slope, and in places the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Ground water can be contaminated because of the fractured nature of the bedrock. The less sloping adjacent soils that are very deep to bedrock may be better suited. Enlarging the absorption field along the contour of the slope can increase the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock, excessive slope, and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and so that the road grades minimize the need for removal of the bedrock can reduce construction costs. Additions of coarse grained subgrade material to frost depth reduce the potential for frost damage.

The land capability subclass is 3e.

168D—Manlius channery silt loam, 15 to 25 percent slopes

This moderately deep, moderately steep, well drained soil is on glaciated uplands that are bedrock controlled. It is mainly in the southern part of the county but also occurs north of the Mohawk River. It formed in glacial till derived mainly from the underlying shale and siltstone bedrock. Areas of this map unit are mainly elongated or irregular in shape. They are as much as 93 acres in size but typically are less than 53 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown channery silt loam, 25 percent rock fragments

Subsoil
7 to 14 inches, very dark grayish brown and brown very channery silt loam, 40 percent rock fragments
14 to 24 inches, dark yellowish brown very channery silt loam, 50 percent rock fragments

Substratum
24 to 28 inches, dark yellowish brown, firm extremely channery silt loam with a few yellowish brown redoximorphic concentrations, 60 percent rock fragments

Bedrock
28+ inches, very dark gray shale and fine grained siltstone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Exposed bedrock and soils that have more than 25 percent shale fragments in the surface layer
- Some areas of soils that have less than 35 percent rock fragments above the bedrock
- Some areas of somewhat excessively drained and excessively drained Manlius soils
- Somewhat poorly drained, moderately deep Greene and shallow, well drained Arnot soils on the flatter ridgetops and in slight depressions
- Very deep, well drained Chadakoin and Lansing and very deep, moderately well drained Mardin soils in areas where the glacial till is deeper to bedrock
- Areas where slopes are more than 25 percent

Soil Properties

Manlius soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for hay or pasture. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness may be a problem during extended dry periods because of the low available water capacity. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness may be a problem during extended dry periods because of the low available water capacity. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during extended dry periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope and the depth to bedrock, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping and deeper to bedrock are better suited. The dwellings should be designed so that they conform to the natural slope of the land and should be constructed above the bedrock. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are very deep to bedrock and less sloping may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope and the depth to bedrock. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land, and grading and filling are needed. Carefully planned road locations and grades can minimize the need for removal of the bedrock. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

168E—Manlius channery silt loam, 25 to 45 percent slopes

This moderately deep, steep and very steep soil is on glaciated uplands that are bedrock controlled. It is mainly in the southern part of the county but also occurs north of the Mohawk River. It generally is well drained but in some areas is somewhat excessively drained or excessively drained. It formed in glacial till derived mainly from the underlying shale and siltstone bedrock. Areas of this map unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 263 acres in size but typically are less than 86 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown channery silt loam, 25 percent rock fragments

Subsoil

7 to 14 inches, very dark grayish brown and brown very channery silt loam, 40 percent rock fragments

14 to 24 inches, dark yellowish brown very channery silt loam, 50 percent rock fragments

Substratum

24 to 28 inches, dark yellowish brown, firm extremely channery silt loam with a few yellowish brown redoximorphic concentrations, 60 percent rock fragments

Bedrock

28+ inches, very dark gray shale and fine grained siltstone bedrock

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Exposed bedrock and soils that have more than 25 percent shale fragments in the surface layer
- Some areas of soils that have less than 35 percent rock fragments above the bedrock
- Somewhat poorly drained, moderately deep Greene and shallow, well drained Arnot soils on the flatter ridgetops, on benches, and in slight depressions
- Very deep, well drained Chadakoin and Lansing and very deep, moderately well drained Mardin soils in some areas where the glacial till is deeper to bedrock

Soil Properties

Manlius soil

Permeability: Moderate or moderately rapid throughout the mineral soil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer and subsoil and very strongly acid through slightly acid in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds.

Cropland.—This unit is not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Slopes are too steep for the safe operation of farm equipment.

Pasture.—This unit is not suited to pasture in most areas because of steep and very steep slopes and a severe hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—This unit is very limited as a site for dwellings because of excessive slope. Extensive alterations are needed if dwellings are constructed on the unit. The adjacent soils that are less sloping and deeper to bedrock may be better suited to dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of excessive slope. The adjacent soils that are less sloping and deeper to bedrock may be better suited to this use. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they circumvent this unit or conform to the natural slope of the land can reduce construction and maintenance costs. Carefully planning road locations can minimize the need for removal of the bedrock in some areas.

The land capability subclass is 7e.

173B—Mongaup silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, well drained soil is on glaciated uplands that are bedrock controlled. It is in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in glacial till derived from siltstone, sandstone, and shale bedrock. Areas of this map unit are mainly elongated, oblong, roughly oval, or irregular in shape. They are as much as 110 acres in size but typically are less than 39 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 6 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
6 to 20 inches, dark yellowish brown silt loam, 10 percent rock fragments

Substratum
20 to 26 inches, yellowish brown channery silt loam, 15 percent rock fragments

Bedrock
26+ inches, very dark gray fine grained siltstone, horizontally bedded

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas where the soil mantle is less than 20 inches deep over bedrock
- Exposed bedrock
- Somewhat poorly drained Gretor soils on the lower parts of the landscape and in the more concave areas
- A few spots of somewhat poorly drained Kendaia soils (cool phase) and Manheim soils (cool phase) where the glacial till is deeper over bedrock
- Some areas of very deep, moderately well drained Pinckney and very deep, somewhat poorly drained Camroden soils
- In the towns of Trenton, Deerfield, and Marcy, a few areas of soils that have more rock fragments in the subsoil and substratum than is typical
- Areas where slopes are more than 8 percent

Soil Properties

Mongaup soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Extremely acid through strongly acid in the surface layer and the upper part of the subsoil and extremely acid through moderately acid in the lower part of the subsoil and in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. A few areas are used for hay, pasture, or cultivated crops. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately well suited to cultivated crops because of the depth to bedrock. In some areas cultivation may be difficult because of erratic bedrock outcrops. In some areas droughtiness may be a problem during extended dry periods. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter, improve tilth, and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because this unit occurs in areas where there are fewer frost-free days than the average for the county.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods. Excluding livestock from the pasture during these periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Constructing the dwellings above the bedrock and landscaping with additional fill help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and in places the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Ground water can be contaminated because of the fractured nature of the bedrock. The adjacent soils that are very deep to bedrock may be better suited. Enlarging the absorption field can increase the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Properly planned road locations and grades can minimize the need for removal of the bedrock, avoid areas of bedrock outcrops, and thus reduce construction costs. Additions of coarse grained subgrade material to frost depth reduce the potential for frost damage.

The land capability subclass is 2e.

173C—Mongaup silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, well drained soil is on glaciated uplands that are bedrock controlled. It is in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in glacial till derived from siltstone, sandstone, and shale bedrock. Areas of this map unit are mainly elongated or irregular in shape. They are as much as 128 acres in size but typically are less than 58 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 6 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
6 to 20 inches, dark yellowish brown silt loam, 10 percent rock fragments

Substratum
20 to 26 inches, yellowish brown channery silt loam, 15 percent rock fragments

Bedrock
26+ inches, very dark gray fine grained siltstone, horizontally bedded

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas where the soil mantle is less than 20 inches deep over bedrock
- Exposed bedrock
- Somewhat poorly drained Gretor soils on the lower parts of the landscape and in the more concave areas

- A few spots of somewhat poorly drained Kendaia soils (cool phase) and Manheim soils (cool phase) where the glacial till is deeper over bedrock
- Some areas of very deep, moderately well drained Pinckney and very deep, somewhat poorly drained Camroden soils
- In the towns of Trenton, Deerfield, and Marcy, a few areas of soils that have more rock fragments in the subsoil and substratum than is typical
- Areas where slopes are more than 15 percent

Soil Properties

Mongaup soil

Permeability: Moderate throughout the mineral soil

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Extremely acid through strongly acid in the surface layer and the upper part of the subsoil and extremely acid through moderately acid in the lower part of the subsoil and in the substratum

Seasonal high water table: None above the bedrock

Flooding: None

Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. A few areas are used for pasture or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In some areas cultivation may be difficult because of erratic bedrock outcrops. Droughtiness may be a problem during extended dry periods. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods. Excluding livestock from the pasture during these periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Constructing the dwellings above the bedrock and landscaping with additional fill help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock, excessive slope, and in places the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Ground water can be contaminated because of the fractured nature of the bedrock. The less sloping adjacent soils that are very deep to bedrock may be better suited. Enlarging the absorption field along the contour of the slope can increase the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock, excessive slope, and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and so that the road grades minimize the need for removal of the bedrock can reduce construction costs. Additions of coarse grained subgrade material to frost depth reduce the potential for frost damage.

The land capability subclass is 3e.

173E—Mongaup silt loam, 25 to 45 percent slopes

This moderately deep, steep and very steep, well drained soil is on glaciated uplands that are bedrock controlled. It is in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in glacial till derived from siltstone, sandstone, and shale bedrock. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 799 acres in size but typically are less than 90 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 6 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
6 to 20 inches, dark yellowish brown silt loam, 10 percent rock fragments

Substratum
20 to 26 inches, yellowish brown channery silt loam, 15 percent rock fragments

Bedrock
26+ inches, very dark gray fine grained siltstone, horizontally bedded

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas where the soil mantle is less than 20 inches deep over bedrock
- Exposed bedrock
- Somewhat poorly drained Gretor soils on the lower parts of the landscape and in the more concave areas
- A few spots of somewhat poorly drained Kendaia soils (cool phase) and Manheim soils (cool phase) in the less sloping areas where the glacial till is deeper over bedrock
- Some areas of very deep, moderately well drained Pinckney and very deep, somewhat poorly drained Camroden soils on footslopes and toeslopes
- In the towns of Trenton, Deerfield, and Marcy, a few areas of soils that have more rock fragments (mostly shale) in the subsoil and substratum than is typical
- Areas where slopes are 15 to 25 percent

Soil Properties

Mongaup soil

Permeability: Moderate throughout the mineral soil

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Extremely acid through strongly acid in the surface layer and the upper part of the subsoil and extremely acid through moderately acid in the lower part of the subsoil and in the substratum

Seasonal high water table: None above the bedrock

Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Excessive slope limits the safe operation of farm machinery in the steeper areas.

Pasture.—The steeper areas of this unit are generally not suited to pasture because of steep and very steep slopes and a severe hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Conservation tillage helps to control erosion during pasture renovation. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—This unit is very limited as a site for dwellings because of excessive slope. Extensive alterations are needed if dwellings are constructed on the unit. The adjacent soils that are less sloping and deeper to bedrock may be better suited to dwellings.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of excessive slope. The adjacent soils that are less sloping and deeper to bedrock may be better suited to this use. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they circumvent this unit or conform to the natural slope of the land can reduce construction and maintenance costs. Carefully planning road locations can minimize the need for removal of the bedrock in some areas.

The land capability subclass is 7e.

176B—Nellis loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on hilltops and drumlins and in convex areas on glaciated uplands and moraines, mainly in the southern part of the county. In some areas it is on a series of terracelike landforms supported by nearly level bedded limestone bedrock. The soil formed in glacial till derived mainly from limestone with components of sandstone and coarse grained siltstone. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 899 acres in size but typically are less than 130 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown loam, 5 percent rock fragments

Subsoil
7 to 12 inches, brown and yellowish brown loam, 10 percent rock fragments
12 to 20 inches, brown and dark grayish brown silt loam, 10 percent rock fragments
20 to 25 inches, brown and dark grayish brown loam, 10 percent rock fragments

Substratum

25 to 72 inches, grayish brown, firm gravelly fine sandy loam, 15 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Areas where the depth to carbonates is more than 40 inches
- On landforms similar to those of the Nellis soil, Honeoye soils and moderately well drained Lima soils. These soils have more clay in the subsoil than the Nellis soil.
- Moderately well drained Amenia and somewhat poorly drained Kendaia soils in some areas that receive more runoff or are slightly concave
- Small areas of poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Small areas of Nellis soils that have slopes of more than 8 percent

Soil Properties

Nellis soil

Permeability: Moderate in the surface layer and subsoil and moderate or moderately slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are covered with weeds and brush. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Erosion is a hazard on long slopes and in the steeper areas. Stripcropping and a conservation tillage system that leaves crop residue on the surface after planting help to control erosion. Winter cover crops, crop rotations, the return of crop residue to the soil, and regular additions of other organic material help to maintain the content of organic matter and improve tilth. In some areas of this unit, boulders are on the surface. These areas are identified on the soil map by a symbol for stony spots. The boulders hinder farm management in some fields.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of moderate or moderately slow permeability in the substratum. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

176C—Nellis loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on hilltops, side slopes, and drumlins and in convex areas on glaciated uplands and moraines, mainly in the southern part of the county. In some areas it is on a series of terracelike landforms supported by nearly level bedded limestone. The soil formed in glacial till derived mainly from limestone with components of sandstone and coarse grained siltstone. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 137 acres in size but typically are less than 68 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown loam, 5 percent rock fragments

Subsoil
7 to 12 inches, brown and yellowish brown loam, 10 percent rock fragments
12 to 20 inches, brown and dark grayish brown silt loam, 10 percent rock fragments
20 to 25 inches, brown and dark grayish brown loam, 10 percent rock fragments

Substratum
25 to 72 inches, grayish brown, firm gravelly fine sandy loam, 15 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Areas where the depth to carbonates is more than 40 inches
- On landforms similar to those of the Nellis soil, Honeoye soils and moderately well drained Lima soils. These soils have more clay in the subsoil than the Nellis soil.
- Moderately well drained Amenia and somewhat poorly drained Kendaia soils in some areas that receive more runoff or are slightly concave
- Small areas of poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Small areas of Nellis soils that have slopes of more than 15 percent

Soil Properties

Nellis soil
Permeability: Moderate in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping (fig. 11), cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed during construction.

Septic tank absorption fields.—Excessive slope and the moderate or moderate slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage. Land shaping or designing the roads so that they conform to the natural slope of the land helps to overcome the slope.

The land capability subclass is 3e.

Figure 11.— Stripcropping in an area of Nellis loam, 8 to 15 percent slopes, on the side slopes of a drumlin. This practice is especially effective in controlling water erosion and maintaining fertility in areas of this soil.

176D—Nellis loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on the side slopes of drumlins and in convex areas on glaciated uplands and moraines, mainly in the southern part of the county. In some areas it is on a series of terracelike landforms supported by nearly level bedded limestone bedrock. The soil formed in glacial till derived mainly from limestone with components of sandstone and coarse grained siltstone. Areas of this map unit are mainly semicircular, elongated, or irregular in shape. They are as much as 153 acres in size but typically are less than 31 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown loam, 5 percent rock fragments

Subsoil
7 to 12 inches, brown and yellowish brown loam, 10 percent rock fragments
12 to 20 inches, brown and dark grayish brown silt loam, 10 percent rock fragments
20 to 25 inches, brown and dark grayish brown loam, 10 percent rock fragments

Substratum
25 to 72 inches, grayish brown, firm gravelly fine sandy loam, 15 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Areas where the depth to carbonates is more than 40 inches
- On landforms similar to those of the Nellis soil, Honeoye soils and moderately well drained Lima soils. These soils have more clay in the subsoil than the Nellis soil.
- Moderately well drained Amenia and somewhat poorly drained Kendaia soils in some areas that receive more runoff or are slightly concave
- Small areas of poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Small areas of Nellis soils that have slopes of more than 25 percent

Soil Properties

Nellis soil

Permeability: Moderate in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture, hay, or cultivated crops. Some areas are used as woodland, and a few areas are covered with brush or weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, and a crop rotation that limits the amount of time that row crops are grown help to control erosion. In some areas of this unit, boulders are on the surface. These areas are identified on the soil map by a symbol for stony spots. The boulders hinder farm management in some fields. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Minimum tillage reduces the hazard of erosion during pasture renovation. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum during excavation, and temporary erosion-control structures and seeding are needed during construction. The adjacent soils that are less sloping may be better suited to dwellings.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land, and grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

195—Palms muck, drained

This very deep, nearly level, very poorly drained soil is in depressions and bogs on lake plains and outwash plains in the central part of the county, near the city of Rome. It formed in well decomposed herbaceous organic deposits that are 16 to 51 inches deep over loamy deposits. Artificial drainage has been applied, and the water table is adjusted throughout the year according to the needs of the user. Areas of this map unit are irregular in shape and are as much as 124 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 10 inches, black (broken face and rubbed) muck (sapric material), about 10 percent fiber undisturbed and 5 percent fiber rubbed

Subsurface tier

10 to 18 inches, black muck (sapric material), about 15 percent fiber undisturbed and 5 percent fiber rubbed

Mineral substratum

18 to 24 inches, grayish brown silty clay loam with a few yellowish brown redoximorphic concentrations

24 to 72 inches, grayish brown silt loam with a few yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- On the same landform as the Palms soil, generally toward the center of the delineations of the unit, small areas of Carlisle soils, which formed in organic deposits that are more than 51 inches thick
- Small areas of Adrian soils, which are similar to the Palms soil but are underlain by sandy deposits
- Areas where the organic deposit is thinner than is typical for Palms soils because of subsidence or erosion resulting from drainage and farming practices
- In the slightly higher areas and near the periphery of the mapped areas, poorly drained Canandaigua and Lamson soils, which formed in water-sorted glaciolacustrine or glaciofluvial deposits
- Along some drainageways and on narrow flood plains, Wallkill soils and poorly drained Wayland soils. These soils do not have significant amounts of organic material.

Soil Properties

Palms soil

Permeability: Moderately slow through moderately rapid in the organic surface and subsurface tiers and moderate or moderately slow in the mineral substratum

Available water capacity (40-inch profile): High

Soil reaction: Strongly acid through slightly alkaline in the organic surface and subsurface tiers and slightly acid through moderately alkaline in the mineral substratum

Seasonal high water table: Normally, 1.0 foot above to 1.0 foot below the surface from November through May; however, the water table is artificially managed for agricultural production and fluctuates from at or near the surface between growing seasons to 3 or 4 feet below the surface during the growing season.

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

This map unit is intensively managed with artificial drainage for agricultural production. Some areas where the drainage system has been abandoned support brush, sedges, or wetland shrubs.

Cropland.—This unit has a high potential for farming, particularly for high-value truck crops and specialty crops. Open ditch drainage, tile drainage, and diking are common practices that have been applied to control the high water table. Locating drainage outlets may be difficult, and once the soil is drained, subsidence and wind erosion are problems. Subsidence can be minimized by maintaining a high water table between growing seasons. Cover crops and windbreaks help to control wind erosion.

Pasture.—This unit is very poorly suited to pasture. Livestock puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, low strength, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w in drained areas.

200B—Bice fine sandy loam, 3 to 8 percent slopes

This very deep, gently sloping, well drained soil is on hilltops and the flatter parts of broad glaciated uplands in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from gneiss and granite with variable components of sandstone and shale. Generally, areas of this map unit are roughly oval, oblong, elongated, or irregular in shape. They are as much as 351 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves, pine needles, and twigs
1 to 2 inches, black, highly decomposed leaf litter and other organic material
2 to 9 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Subsoil

9 to 20 inches, strong brown fine sandy loam, 7 percent rock fragments
20 to 30 inches, strong brown very fine sandy loam, 10 percent rock fragments

Substratum

30 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments
40 to 72 inches, dark yellowish brown gravelly fine sandy loam, 22 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landscape as the Bice soil, well drained Worth soils, which have a fragipan, and well drained Pyrities soils, which are less acid than the Bice soil
- On the concave and lower parts of the landscape, moderately well drained Empeyville and Pinckney soils
- In some slightly concave areas, somewhat poorly drained Westbury, Camroden, and Malone soils
- Narrow areas of poorly drained Dannemora and Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Some areas where the surface is stony

Soil Properties

Bice soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid throughout the soil
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for cultivated crops, pasture, or hay. A few areas are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Yearly mowing helps to control brush and weeds.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—This unit is somewhat limited as a site for conventional septic tank absorption fields because of moderate or moderately slow permeability in the substratum. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2e.

200C—Bice fine sandy loam, 8 to 15 percent slopes

This very deep, strongly sloping, well drained soil is on hilltops and side slopes on glaciated uplands in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from gneiss and granite with variable components of sandstone and shale. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 549 acres in size but typically are less than 155 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves, pine needles, and twigs
1 to 2 inches, black, highly decomposed leaf litter and other organic material
2 to 9 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Subsoil

9 to 20 inches, strong brown fine sandy loam, 7 percent rock fragments
20 to 30 inches, strong brown very fine sandy loam, 10 percent rock fragments

Substratum

30 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments
40 to 72 inches, dark yellowish brown gravelly fine sandy loam, 22 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landscape as the Bice soil, well drained Worth soils, which have a fragipan, and well drained Pyrities soils, which are less acid than the Bice soil
- On the concave and lower parts of the landscape, moderately well drained Empeyville and Pinckney soils
- In some slightly concave areas, somewhat poorly drained Westbury, Camroden, and Malone soils
- Narrow areas of poorly drained Dannemora and Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Some areas where the surface is stony

Soil Properties

Bice soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid throughout the soil
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for cultivated crops, pasture, or hay. A few areas are in brushy or weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Yearly mowing helps to control brush and weeds.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Excessive slope and moderate or moderately slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Installing the distribution lines on the contour and using distribution boxes or other structures that ensure an even distribution of effluent can increase the effectiveness of the system. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land reduces construction costs. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

200D—Bice fine sandy loam, 15 to 25 percent slopes

This very deep, moderately steep, well drained soil is on hilltops, valley sides, and side slopes on glaciated uplands in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from gneiss and granite with variable components of sandstone and shale. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 196 acres in size but typically are less than 100 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves, pine needles, and twigs
1 to 2 inches, black, highly decomposed leaf litter and other organic material
2 to 9 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Subsoil

9 to 20 inches, strong brown fine sandy loam, 7 percent rock fragments
20 to 30 inches, strong brown very fine sandy loam, 10 percent rock fragments

Substratum

30 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments
40 to 72 inches, dark yellowish brown gravelly fine sandy loam, 22 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landscape as the Bice soil, well drained Worth soils, which have a fragipan, and well drained Pyrities soils, which are less acid than the Bice soil
- On the concave and lower parts of the landscape, moderately well drained Empeyville and Pinckney soils
- In some slightly concave areas, somewhat poorly drained Westbury, Camroden, and Malone soils
- Narrow areas of poorly drained Dannemora and Marcy and very poorly drained Tughill soils in depressions and along drainageways
- Some areas where the surface is stony

Soil Properties

Bice soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid throughout the soil
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used as pasture or are in brushy fields. A few areas are used for hay or cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. The adjacent soils that are less sloping may be better suited to dwellings. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

200E—Bice fine sandy loam, 25 to 50 percent slopes

This very deep, steep and very steep, well drained soil is on valley sides and side slopes on glaciated uplands in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from gneiss and granite with variable components of sandstone and shale. Areas of this map unit are mainly oblong or long and narrow. They are as much as 955 acres in size but typically are less than 250 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, slightly decomposed leaves, pine needles, and twigs
1 to 2 inches, black, highly decomposed leaf litter and other organic material
2 to 9 inches, dark yellowish brown fine sandy loam, 5 percent rock fragments

Subsoil
9 to 20 inches, strong brown fine sandy loam, 7 percent rock fragments
20 to 30 inches, strong brown very fine sandy loam, 10 percent rock fragments

Substratum
30 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments
40 to 72 inches, dark yellowish brown gravelly fine sandy loam, 22 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the same landscape as the Bice soil, well drained Worth soils, which have a fragipan, and well drained Pyrities soils, which are less acid than the Bice soil
- Moderately well drained Empeyville and Pinckney soils on the lower parts of the landscape
- Somewhat poorly drained Westbury, Camroden, and Malone soils in some concave areas
- Narrow areas of poorly drained Dannemora and Marcy and very poorly drained Tughill soils along drainageways
- Some areas where the surface is stony
- A few small areas of soils that have more rock fragments in the substratum than is typical for the Bice soil in this unit

Soil Properties

Bice soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and moderate or moderately slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid throughout the soil
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous. Cultivated areas are subject to severe erosion.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are

moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping are better sites for dwellings.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping may be better suited to this use. Laterally moving effluent could seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. Designing the roads so that they conform to the natural slope of the land can reduce construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

212—Adrian muck

This very deep, nearly level, very poorly drained soil is in depressions and bogs on outwash plains, lake plains, flood plains, and some glacial till plains. It formed in well decomposed organic material that is 16 to 51 inches deep over sandy deposits. Areas of this map unit are mainly elongated, long and narrow, or irregular in shape. They range from 3 to 570 acres in size and typically are less than 55 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 8 inches, black (broken face and rubbed) muck (sapric material), about 15 percent fiber undisturbed and 5 percent fiber rubbed

8 to 12 inches, very dark grayish brown (broken face and rubbed) muck (sapric material), about 10 percent fiber undisturbed and 3 percent fiber rubbed

Subsurface tier

12 to 21 inches, dark reddish brown (broken face and rubbed) muck (sapric material), about 20 percent fiber undisturbed and 10 percent fiber rubbed

Mineral substratum

21 to 72 inches, dark gray gravelly loamy sand with common light olive brown redoximorphic concentrations, 25 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Generally toward the center of the delineations of this map unit, small areas of Napoleon and Carlisle soils, which formed in organic material that is more than 51 inches deep over mineral material

- Small areas of Palms soils, which are similar to the Adrian soil but are underlain by loamy deposits
- Moderately well drained Covert soils in a few elevated areas
- Some areas of somewhat poorly drained Wareham soils, in which less than 16 inches of muck overlies sandy material. These soils are on landscapes similar to those of the Adrian soil.
- Poorly drained Jebavy soils, which have a cemented layer (ortstein) in the subsoil

Soil Properties

Adrian soil

Permeability: Moderately slow through moderately rapid in the organic layers and rapid in the substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through neutral in the organic layers and moderately acid through moderately alkaline in the mineral substratum
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is generally unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is generally unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock can puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

221B—Kalurah silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs mostly in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous glacial till derived from shale and limestone. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 268 acres in size but typically are less than 81 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 18 inches, brown silt loam, 5 percent rock fragments
18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments
34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum
49 to 66 inches, brown loam, 10 percent rock fragments
66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Malone and poorly drained Runeberg soils in the more nearly level areas, in depressions, and along drainageways
- Moderately well drained Pinckney and somewhat poorly drained Camroden soils, which have a fragipan in the subsoil
- In the towns of Remsen, Western, and Steuben, areas that have boulders and stones on the surface
- Small areas where slopes are more than 8 percent

Soil Properties

Kalurah soil
Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for cultivated crops, pasture, or hay. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

221C—Kalurah silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs mostly in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this map unit are mainly oval or irregular in shape. They are as much as 1,377 acres in size but typically are less than 220 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 18 inches, brown silt loam, 5 percent rock fragments
18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments

34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

49 to 66 inches, brown loam, 10 percent rock fragments

66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Malone and poorly drained Runeberg soils in the more nearly level areas, in depressions, and along drainageways
- A few areas of moderately well drained Pinckney and somewhat poorly drained Camroden soils, which have a fragipan in the subsoil
- In the towns of Remsen, Western, and Steuben, areas that have boulders and stones on the surface
- Small areas where slopes are more than 15 percent

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for cultivated crops, pasture, or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table, excessive slope, and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Installing the distribution lines along the contour of the slope or in less sloping areas improves performance of the septic system. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action, excessive slope, and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Building the roads on raised additions of coarse grained subgrade and base material to frost depth, building them along the contour of the slope, and installing a drainage system can reduce the adverse effects of the slope and the seasonal wetness.

The land capability subclass is 3e.

221D—Kalurah silt loam, 15 to 25 percent slopes

This very deep, moderately steep, moderately well drained soil is on side slopes in the glaciated uplands. It occurs mostly in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 179 acres in size but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil

9 to 18 inches, brown silt loam, 5 percent rock fragments

18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments

34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

49 to 66 inches, brown loam, 10 percent rock fragments

66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Malone and poorly drained Runeberg soils in the less sloping areas, in depressions, and along drainageways
- A few areas of moderately well drained Pinckney and somewhat poorly drained Camroden soils, which have a fragipan in the subsoil

- In the towns of Remsen, Western, and Steuben, areas that have boulders and stones on the surface
- Small areas where slopes are more than 25 percent

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. A few areas are used for pasture or hay.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. A subsurface drainage system is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and in some areas the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land can lower construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

221E—Kalurah silt loam, 25 to 45 percent slopes

This very deep, steep and very steep, moderately well drained soil is on side slopes in the glaciated uplands. It occurs mostly in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this map unit are mainly long and narrow, elongated, or irregular in shape. They are as much as 831 acres in size but typically are less than 58 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil

9 to 18 inches, brown silt loam, 5 percent rock fragments

18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments

34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

49 to 66 inches, brown loam, 10 percent rock fragments

66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Malone and poorly drained Runeberg soils in depressions and along drainageways
- A few areas of moderately well drained Pinckney and somewhat poorly drained Camroden soils, which have a fragipan in the subsoil
- In the towns of Remsen, Western, and Steuben, areas that have boulders and stones on the surface

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. A few spots are used for pasture or hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Conservation tillage helps to control erosion during pasture renovation. Applications of fertilizer and weed control can increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered as alternative sites. Erosion is a severe hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are likely to be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land or routing them around this unit can lower construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

223A—Malone loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is in slightly concave areas on broad glaciated uplands and hilltops. In most areas it is in the northern and eastern parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 643 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments
14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments
18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments

Substratum
38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Pyrities and moderately well drained Kalurah soils, mostly on knolls or in high areas
- Poorly drained Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of Camroden and Pinckney soils, which have a fragipan and do not have free carbonates within 50 inches of the surface
- Mainly in the town of Remsen, small areas of soils that are coarser textured than the Malone soil
- Areas that have boulders and stones on the surface
- A few areas where slopes are more than 3 percent

Soil Properties

Malone soil

Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

223B—Malone loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad glaciated uplands. In most areas it is in the northern and eastern parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 2,244 acres in size but typically are less than 300 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments

14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments
18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments

Substratum
38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Pyrities and moderately well drained Kalurah soils, mostly on knolls or in high areas
- Poorly drained Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of Camroden and Pinckney soils, which have a fragipan and do not have free carbonates within 50 inches of the surface
- Mainly in the town of Remsen, small areas of soils that are coarser textured than the Malone soil
- Areas that have boulders and stones on the surface
- A few areas where slopes are more than 8 percent

Soil Properties

Malone soil
Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

223C—Malone loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat poorly drained soil is on side slopes and hilltops and in slight depressions on broad glaciated uplands. In most areas it is in the northern and eastern parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Generally, areas of this map unit are roughly oval or elongated. They are as much as 186 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil

9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments

14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments, strongly effervescent

Substratum

38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments, violently effervescent

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Pyrities and moderately well drained Kalurah soils, mostly on knolls or in high areas
- Poorly drained Runeberg soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of Camroden and Pinckney soils, which have a fragipan and do not have free carbonates within 50 inches of the surface
- Mainly in the town of Remsen, small areas of soils that are coarser textured than the Malone soil
- Areas that have boulders and stones on the surface
- A few areas where slopes are more than 15 percent

Soil Properties

Malone soil

Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are covered with brush and weeds or are used as woodland. Some areas are used as pasture, and a few areas are used as hayland.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

256D—Becket fine sandy loam, 15 to 25 percent slopes, very bouldery

This very deep, moderately steep, well drained soil is on side slopes and hilltops on glaciated uplands in the northeastern part of the county. It occurs in the Adirondack foothills, at an elevation of more than 1,000 feet. The soil formed in a friable, loamy mantle that overlies dense, firm, sandy glacial till. Boulders cover 0.1 to 3 percent of the surface. Areas of this unit are mainly elongated or somewhat oval and narrow. They range from 3 to 80 acres in size and typically are less than 13 acres. Slopes typically are simple but are complex in a few areas.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, black silts and highly decomposed plant material

Subsoil

1 to 3 inches, dusky red fine sandy loam, 5 percent rock fragments
3 to 16 inches, dark brown fine sandy loam, 10 percent rock fragments
16 to 24 inches, dark yellowish brown fine sandy loam, 10 percent rock fragments
24 to 34 inches, brown gravelly fine sandy loam with a few strong brown redoximorphic concentrations, 15 percent rock fragments

Substratum

34 to 41 inches, grayish brown, firm gravelly loamy sand with lenses of fine sandy loam and sandy loam and with strong brown redoximorphic concentrations in lenses, 20 percent rock fragments
41 to 72 inches, grayish brown, firm gravelly loamy sand with yellowish brown masses of iron accumulation, 25 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Skerry and somewhat poorly drained Adirondack soils on footslopes, along drainageways, and in small depressions. Where the slopes are more complex, these wetter included soils are more common.
- Along some perennial drainageways in terracelike areas, somewhat excessively drained Adams and excessively drained Colton soils. These soils have stratified sandy material or pebbles within a depth of 40 inches.
- On the same landforms as the Becket soil, soils that are similar to Becket soil but are friable in the lower part of the subsoil and in the substratum. Predicting where these included soils occur is difficult.
- A few areas where slopes are more than 25 percent

Soil Properties

Becket soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or moderately slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Extremely acid through slightly acid in the surface layer and subsoil and very strongly acid through neutral in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from March through April

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with brush and weeds.

Cropland.—This soil is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion in areas where the boulders have been removed from the surface. Areas where the boulders have not been removed cannot be cultivated. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Because of excessive slope, the operation of farm equipment is hazardous. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is moderately suited to pasture. In some areas maintaining the pasture can be hazardous because of the surface boulders. Erosion is a hazard. Minimum tillage reduces the hazard of erosion during pasture renovation. Overgrazing can decrease the quantity and quality of forage and generally increases compaction, runoff, and erosion. Proper stocking rates and rotational grazing increase the quantity and quality of forage. Applications of lime and fertilizer and control of brush and weeds increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the less sloping areas nearby should be considered as alternative sites. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 6s.

260A—Ovid silt loam, 0 to 3 percent slopes

This very deep, somewhat poorly drained soil is on flats and in slight depressions on broad plains in the glaciated uplands, mostly in the southern part of the county. It formed in moderately fine textured till derived dominantly from red shale or lacustrine clay mixed with limestone and sandstone. Generally, areas of this map unit are roughly oval, elongated, oblong, or irregular in shape. They are as much as 119 acres in size but typically are less than 46 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 11 inches, dark brown silt loam, 5 percent rock fragments

Subsoil

11 to 20 inches, brown silt loam with a few strong brown redoximorphic concentrations, 5 percent rock fragments

20 to 26 inches, brown, firm silty clay loam with yellowish brown redoximorphic concentrations, 10 percent rock fragments

26 to 32 inches, brown, firm silty clay loam with yellowish brown, strong brown, and olive yellow redoximorphic concentrations, 10 percent rock fragments

32 to 39 inches, brown, firm silty clay loam with yellowish brown, olive yellow, and strong brown redoximorphic concentrations and common brown redoximorphic depletions, 10 percent rock fragments

Substratum

39 to 72 inches, brown, firm gravelly silty clay loam with common brownish yellow and yellowish brown redoximorphic concentrations and common dark brown redoximorphic depletions, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Cazenovia soils in the higher areas or on small knobs
- Poorly drained Lyons soils in some depressions and along drainageways. These soils may be identified on the soil map by a symbol for wet spots.
- Some areas of Appleton soils, which have less clay than the Ovid soil and are more acid
- A few small areas where slopes are more than 3 percent

Soil Properties

Ovid soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid or slightly acid in the surface layer, moderately acid through neutral in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used for cultivated crops. A few areas are used as woodland or are covered with brush and weeds. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

260B—Ovid silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave depressions on broad plains in the glaciated uplands. In most areas it is in the southern part of the county. It formed in moderately fine textured till derived dominantly from red shale or lacustrine clay mixed with limestone and sandstone. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 120 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 11 inches, dark brown silt loam, 5 percent rock fragments

Subsoil
11 to 20 inches, brown silt loam with a few strong brown redoximorphic concentrations, 5 percent rock fragments
20 to 26 inches, brown, firm silty clay loam with yellowish brown redoximorphic concentrations, 10 percent rock fragments
26 to 32 inches, brown, firm silty clay loam with yellowish brown, strong brown, and olive yellow redoximorphic concentrations, 10 percent rock fragments
32 to 39 inches, brown, firm silty clay loam with yellowish brown, olive yellow, and strong brown redoximorphic concentrations and common brown redoximorphic depletions, 10 percent rock fragments

Substratum
39 to 72 inches, brown, firm gravelly silty clay loam with common brownish yellow and yellowish brown redoximorphic concentrations and common dark brown redoximorphic depletions, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Moderately well drained Cazenovia soils in the higher areas or on small knobs
- Poorly drained Lyons soils in some depressions and along drainageways. These soils may be identified on the soil map by a symbol for wet spots.
- Some areas of Appleton soils, which have less clay than the Ovid soil and are more acid
- A few small areas where slopes are more than 8 percent

Soil Properties

Ovid soil
Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid or slightly acid in the surface layer, moderately acid through neutral in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 2.0 feet from November through May

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture, hay, or woodland. Some areas are used for cultivated crops or are covered with brush and weeds. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

267B—Greene silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, somewhat poorly drained soil is on ridgetops and benches on glaciated uplands throughout the county. North of the Mohawk River, it occurs mainly at an elevation of less than 1,000 feet. The soil formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, siltstone, and sandstone bedrock. Areas of this map unit are mainly elliptical, roughly oval, or irregular in shape. They range from 3 to 312 acres in size and typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 18 inches, brown silt loam with many strong brown redoximorphic concentrations and common light brownish gray redoximorphic depletions, 5 percent rock fragments
18 to 27 inches, dark grayish brown silt loam with common dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum
27 to 39 inches, dark grayish brown gravelly loam with a few dark yellowish brown redoximorphic concentrations, 25 percent rock fragments

Bedrock
39+ inches, black, fractured shale bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Small areas of exposed bedrock
- Soils that have a high content of shale fragments in the surface layer
- On the same landforms as the Greene soil, moderately deep, well drained Manlius soils
- A few small areas of well drained Arnot and poorly drained Tuller soils, which are shallower to bedrock than the Greene soil
- A few areas of soils that have bedrock at a depth of less than 10 inches
- In the southernmost part of the county, a few small areas of very deep, moderately well drained Mardin soils and very deep, somewhat poorly drained Venango soils
- In a few spots on some landforms, very deep, moderately well drained Conesus soils and very deep, somewhat poorly drained Kendaia and Manheim soils
- A few small areas where slopes are more than 8 percent

Soil Properties

Greene soil

Permeability: Moderate in the surface layer and moderately slow or slow in the subsoil and substratum
Available water capacity (40-inch profile): Mainly high but ranging from low through high
Soil reaction: Extremely acid through strongly acid in the surface layer and strongly acid or moderately acid in the subsoil and substratum
Depth to a seasonal high water table: 0.5 to 1.0 foot from December through June
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are used as woodland or are in brushy or weedy fields. A few areas are cropped on a limited basis. Where this soil has been artificially drained, it ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table and in some areas the depth to bedrock. Wetness may delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Conservation tillage, stripcropping, cover crops, applications of fertilizer, and the return of crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is generally suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation in late fall, in spring, or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the depth to bedrock. Installing tile drains along the footings of dwellings and shaping the land so that surface water moves away from the dwellings reduce the wetness. In many areas additions of fill material are needed around the dwellings.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of restricted permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Also, it is very limited by the depth to bedrock in some areas. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered when sites for conventional systems are selected. Poor filtering and contamination of the ground water can occur on this unit. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3w.

267C—Greene silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, somewhat poorly drained soil is on ridgetops, side slopes, and benches in the glaciated uplands that are bedrock controlled. It occurs throughout the county. North of the Mohawk River, it is mainly at an elevation of less than 1,000 feet. The soil formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, siltstone, and sandstone bedrock. Areas of this map unit are mainly elliptical, roughly oval, or elongated. They range from 2 to 93 acres in size and typically are less than 39 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil

8 to 18 inches, brown silt loam with many strong brown redoximorphic concentrations and common light brownish gray redoximorphic depletions, 5 percent rock fragments

18 to 27 inches, dark grayish brown silt loam with common dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

27 to 39 inches, dark grayish brown gravelly loam with a few dark yellowish brown redoximorphic concentrations, 25 percent rock fragments

Bedrock

39+ inches, black, fractured shale bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of exposed bedrock
- Soils that have a high content of shale fragments in the surface layer
- On the same landforms as the Greene soil, moderately deep, well drained Manlius soils
- A few small areas of well drained Arnot and poorly drained Tuller soils, which are shallower to bedrock than the Greene soil
- A few areas of soils that have bedrock at a depth of less than 10 inches
- In the southernmost part of the county, a few small areas of very deep, moderately well drained Mardin soils and very deep, somewhat poorly drained Venango soils. These soils are in areas where the glacial till is deeper over bedrock.
- In a few spots where the glacial till is deeper over bedrock, very deep, moderately well drained Conesus soils and very deep, somewhat poorly drained Kendaia and Manheim soils
- A few small areas where slopes are more than 15 percent

Soil Properties

Greene soil

Permeability: Moderate in the surface layer and moderately slow or slow in the subsoil and substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Extremely acid through strongly acid in the surface layer and strongly acid or moderately acid in the subsoil and substratum

Depth to a seasonal high water table: 0.5 to 1.0 foot from December through June

Flooding: None

Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. Some areas are used for pasture or hay. A few areas are cropped on a limited basis.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. In some areas the depth to bedrock also is a limitation. Wetness may delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. A conservation tillage system that leaves crop residue on the surface after planting, cover crops, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is generally suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation in late fall, in spring, or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the depth to bedrock. Installing tile drains along the footings of dwellings and shaping the land so that surface water moves away from the dwellings reduce the wetness. In many areas additions of fill material are needed around the dwellings.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of restricted permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Also, it is very limited by the depth to bedrock in some areas. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered when sites for conventional systems are selected. Poor filtering and contamination of the ground water can occur on this unit. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3e.

269—Greene-Tuller complex

This unit consists of a nearly level, somewhat poorly drained, moderately deep Greene soil and a nearly level, poorly drained, shallow Tuller soil. These soils are on bedrock-controlled ridgetops and benches throughout the county. North of the Mohawk River, the unit occurs mainly at an elevation of less than 1,000 feet. Some areas have a “stairstep” appearance because of bedrock ledges. The soils formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, sandstone, and siltstone bedrock. The unit consists of about 45 percent Greene soil, 35 percent Tuller soil, and 20 percent other soils. Areas of this map unit are mainly elliptical, long and narrow, or irregular in shape. They range from 7 to 55 acres in size and typically are less than 30 acres. The Greene and Tuller soils occur in such an intricate pattern that separating them in mapping was not practical. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of the Greene soil are as follows—

Surface layer
0 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 18 inches, brown silt loam with many strong brown redoximorphic concentrations and common light brownish gray redoximorphic depletions, 5 percent rock fragments
18 to 27 inches, dark grayish brown silt loam with common dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum
27 to 39 inches, dark grayish brown gravelly loam with a few dark yellowish brown redoximorphic concentrations, 25 percent rock fragments

Bedrock
39+ inches, black, fractured shale bedrock.

The typical sequence, depth, and composition of the layers of the Tuller soil are as follows—

Surface layer
0 to 3 inches, very dark grayish brown channery silt loam, 15 percent rock fragments

Subsoil
3 to 9 inches, brown channery silt loam with common red redoximorphic concentrations, 15 percent rock fragments
9 to 11 inches, light olive brown channery silt loam with common yellowish red redoximorphic concentrations and dark grayish brown redoximorphic depletions, 15 percent rock fragments

Bedrock
11+ inches, dark grayish brown, hard, massive, unfractured siltstone

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Small areas of exposed bedrock
- Soils that have a high content of shale fragments in the surface layer
- Some areas of somewhat poorly drained Tuller soils
- On the same landforms as the Greene and Tuller soils, moderately deep, well drained Manlius soils
- Shallow, well drained Arnot soils on the highest parts of the landforms and along the edges of the bedrock benches
- A few areas of soils that have bedrock at a depth of less than 10 inches
- In the southernmost part of the county, a few small areas of very deep, moderately well drained Mardin soils and very deep, somewhat poorly drained Venango soils
- In a few spots on landforms north of the Mohawk River, very deep, moderately well drained Conesus soils and very deep, somewhat poorly drained Kendaia and Manheim soils
- A few small areas where slopes are more than 3 percent

Soil Properties

Greene soil

Permeability: Moderate in the surface layer and moderately slow or slow in the subsoil and substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Extremely acid through strongly acid in the surface layer and strongly acid or moderately acid in the subsoil and substratum
Depth to a seasonal high water table: 0.5 to 1.0 foot from December through June
Flooding: None
Depth to bedrock: 20 to 40 inches

Tuller soil

Permeability: Moderate in the surface layer and moderately slow or slow in the subsoil
Available water capacity (40-inch profile): Very low
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from December through June
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. Some areas are used for pasture or hay, and a few areas are cropped on a limited basis.

Cropland.—This unit is poorly suited to cultivated crops because of the depth to bedrock, seasonal wetness, and the very low available water capacity of the Tuller soil, especially during droughty periods.

Pasture.—The Tuller soil is poorly suited to pasture because of the shallow depth to bedrock, which often results in droughtiness in summer, and because of the wetness caused by the seasonal high water table in spring and late fall. The Greene soil is better suited to pasture, but wetness is a problem. Excluding livestock from the pasture during wet and droughty periods can help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings. In some areas the bedrock is massive and cannot be easily ripped during excavation. A better site should be considered for this use. Where dwellings are constructed on this unit, those without basements require less extensive alterations than those with basements. In some areas additions of fill material can increase the depth to bedrock. Wetland regulations should be investigated before dwellings are constructed on the poorly drained Tuller soil.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, the depth to bedrock, and the restricted permeability in the substratum of the Greene soil, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered for this use. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the depth to bedrock, and the potential for frost action, this unit is very limited as a site for local roads and streets. Routing the roads around areas where the soil is poorly drained or shallow to bedrock can reduce construction and maintenance costs. In some areas constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of the limitations affecting this use. Wetland regulations may prohibit or restrict road construction, additions of fill, or alterations of the drainage in the wettest areas of this unit. These regulations should be investigated before roads and streets are constructed on the unit.

Land capability subclass: Greene soil—3w; Tuller soil—4w.

295—Carlisle muck, drained

This very deep, nearly level, very poorly drained soil is in depressions and bogs on lake plains and outwash plains in the central part of the county, near the city of Rome. It formed in well decomposed herbaceous organic material that is more than 51 thick deep over mineral deposits. Artificial drainage has been applied, and the water table is adjusted throughout the year according to the needs of the user. Areas of this map unit are somewhat rectangular or irregular in shape and range from 17 to 313 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier
- 0 to 10 inches, black (broken face and rubbed) muck, about 10 percent fiber undisturbed and 5 percent fiber rubbed
- 10 to 12 inches, black (broken face and rubbed) muck, about 15 percent fiber undisturbed and 5 percent fiber rubbed

Subsurface tier
- 12 to 18 inches, black (broken face and rubbed) muck, about 15 percent fiber undisturbed and 5 percent fiber rubbed
- 18 to 36 inches, black (broken face and rubbed) muck, about 20 percent fiber undisturbed and 3 percent fiber rubbed

Bottom tier
- 36 to 51 inches, black (broken face and rubbed) muck, about 20 percent fiber undisturbed and 3 percent fiber rubbed
- 51 to 54 inches, black (broken face and rubbed) muck, about 25 percent fiber undisturbed and 3 percent fiber rubbed

Mineral substratum
- 54 to 72 inches, reddish gray silty clay loam

Included Areas

Included areas make up about 15 percent of the unit. They are as much as 3 acres in size. They are as follows—
- Palms soils, which formed in organic deposits 16 to 51 inches deep over loamy material
- Areas where the organic layers are thinner than is typical for Carlisle soils because of subsidence or erosion caused by drainage and farming practices
- In the slightly higher areas and near the periphery of this unit, poorly drained Canandaigua and Lamson soils, which formed in water-sorted deposits
- Along some drainageways and on narrow flood plains, Wallkill soils, which formed in alluvium over organic material, and Wayland soils, which formed in alluvium

Soil Properties

Carlisle soil

Permeability: Moderately slow through moderately rapid in the organic part of the soil and moderately slow or moderate in the mineral substratum

Available water capacity (40-inch profile): High
Soil reaction: Very strongly acid through slightly alkaline throughout the organic part of the soil and slightly acid through slightly alkaline in the mineral substratum
Depth to a seasonal high water table: Normally, 1.0 foot above to 1.0 foot below the surface from September through June; however, the water table is artificially managed for agricultural production and fluctuates from at or near the surface between growing seasons to 3 or 4 feet below the surface during the growing season.
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

This map unit is intensively managed with artificial drainage for agricultural production. Some areas where the drainage system has been abandoned support brush, sedges, or wetland shrubs.

Cropland.—This unit has a high potential for farming, particularly for high-value truck crops and specialty crops. Open ditch drainage, tile drainage, and diking are common practices that have been applied to control the high water table. Locating drainage outlets may be difficult, and once the soil is drained, subsidence and wind erosion are problems. Subsidence can be minimized by maintaining a high water table between growing seasons. Cover crops and windbreaks help to control wind erosion.

Pasture.—This unit is very poorly suited to pasture. Livestock puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w in drained areas.

350A—Alton gravelly loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat excessively drained soil is on broad outwash plains, high terraces, and kames. In most areas it is north of the Mohawk River, at an elevation of less than 1,000 feet. Smaller areas are in the Deans Creek and Oriskany Creek drainage basins and near Sangerfield. The soil formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, elliptical, or irregular in shape. They are as much as 611 acres in size but typically are less than 150 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—
- Howard soils, which have more limestone fragments and a higher content of lime than the Alton soil
- Knickerbocker soils, which have fewer rock fragments in the lower part than the Alton soil
- Moderately well drained Castile and somewhat poorly drained Fredon soils in small depressions and along drainageways
- Chenango soils in some areas on small rounded knobs. These soils have less lime than the Alton soil.
- A few areas of Windsor soils, which have fewer pebbles and more sand than the Alton soil

Soil Properties

Alton soil
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are in weedy fields. A few areas are used for urban development. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. When managed properly, the soil can be cultivated intensively. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods or in mid or late summer. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Seepage of effluent, which results from rapid permeability in the substratum, somewhat limits the use of this unit as a site for septic tank absorption fields. Poor filtering of the effluent can result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered as alternative sites in some areas. Specially designed systems may be required to prevent the contamination of ground water. State and local health codes may affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

350B—Alton gravelly loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat excessively drained soil is on hilltops and hillsides on broad outwash plains, high terraces, and kames. In most areas it is north of the Mohawk River, at an elevation of less than 1,000 feet. Scattered smaller areas occur south of the Mohawk River. The soil formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, elliptical, or irregular in shape. They are as much as 927 acres in size but typically are less than 200 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil

9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments

24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments

40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum

58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Howard soils, which have more limestone fragments and a higher content of lime than the Alton soil
- Knickerbocker soils, which have fewer rock fragments in the lower part than the Alton soil
- Moderately well drained Castile and somewhat poorly drained Fredon soils in small depressions and along drainageways
- Chenango soils in some areas on small rounded knobs. These soils have less lime than the Alton soil.
- A few areas of Windsor soils, which have fewer pebbles and more sand than the Alton soil

Soil Properties

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are in weedy fields. A few areas are used for urban development. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. When managed properly, the soil can be cultivated intensively. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods or in mid or late summer. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Seepage of effluent, which results from rapid permeability in the substratum, somewhat limits the use of this unit as a site for septic tank absorption fields. Poor filtering of the effluent can result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered as alternative sites in some areas. Specially designed systems may be required to prevent the contamination of ground water. State and local health codes may affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

350C—Alton gravelly loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat excessively drained soil is on hilltops and hillsides on broad outwash plains, high terraces, and kames. In most areas it is north of the Mohawk River, at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 204 acres in size but typically are less than 65 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—

- Howard soils, which have more limestone fragments and a higher content of lime than the Alton soil
- Knickerbocker soils, which have fewer rock fragments in the lower part than the Alton soil
- Moderately well drained Castile and somewhat poorly drained Fredon soils in small depressions and along drainageways
- Chenango soils in some areas on small rounded knobs. These soils have less lime than the Alton soil.
- A few areas of Windsor soils, which have fewer pebbles and more sand than the Alton soil

Soil Properties

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland. A few areas are in brushy or weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods or in mid or late summer. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Land shaping and grading are needed. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of seepage of effluent through the rapidly permeable substratum and because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. Poor filtering of the effluent can result in the contamination of ground water and of nearby water bodies. In some areas the less sloping adjacent soils that have a better filtering capacity should be considered as alternative sites. Some areas of this unit may require specially designed systems to prevent the contamination of ground water. State and local health codes affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

355B—Arnot channery silt loam, 3 to 8 percent slopes

This shallow, gently sloping, dominantly well drained soil is on hilltops, ridges, and side slopes on glaciated uplands that are bedrock controlled. It is mainly in the southern part of the county. It formed in a thin mantle of glacial till derived from acid sandstone, siltstone, and shale. Generally, areas of this map unit are roughly oval, elliptical, or irregular in shape. They range from 3 to 60 acres in size and typically are less than 27 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown channery silt loam, 15 percent rock fragments

Subsoil
7 to 16 inches, brown very channery loam, 45 percent rock fragments
16 to 19 inches, brown very channery loam with a few dark yellowish brown redoximorphic concentrations, 50 percent rock fragments

Bedrock
19+ inches, very dark gray, hard, massive, fine grained sandstone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Poorly drained Tuller soils on footslopes and in slight depressions. These soils receive more runoff than the Arnot soil.
- Somewhat poorly drained Greene and well drained Manlius soils, which are 20 to 40 inches deep over bedrock
- Some areas of soils that are less than 10 inches deep over bedrock. These areas have small amounts of exposed bedrock. They commonly occur on the flatter parts of ridges and hilltops.
- A few spots of soils that formed in glacial till and are more than 40 inches deep over bedrock
- Some areas of somewhat excessively drained or moderately well drained soils
- Areas where slopes are more than 8 percent

Soil Properties

Arnot soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low
Soil reaction: Extremely acid through moderately acid throughout the profile
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used as pasture or hayland, and a few areas are cultivated.

Cropland.—This soil is poorly suited to cultivated crops. The shallow depth to bedrock and the associated restricted rooting depth and very low available water capacity are the main limitations. In some areas the content of rock fragments and occasional rock outcrops are additional management concerns. The best suited crops and crop varieties are those that mature early in the growing season, when more moisture is available, and those that are shallow rooted and can withstand droughty conditions. Contact with rock fragments and with bedrock can cause excessive wear of farm machinery.

Pasture.—This unit is suited to pasture, but it is limited by the shallow depth to bedrock and the droughtiness caused by the very low available water capacity. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control and applications of fertilizer and lime can increase forage yields.

Dwellings.—Because of the shallow depth to bedrock, this unit is very limited as a site for dwellings. Most of the bedrock is hard and cannot be easily ripped. Construction may be more feasible on the deeper soils nearby. The included areas of moderately deep Manlius soils are better sites for dwellings, especially dwellings without basements. Where dwellings are constructed on this unit, those without basements can be built in some areas above the bedrock. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock, this unit is very limited as a site for conventional septic tank absorption fields. The very deep adjacent soils may be better suited to septic systems than the Arnot soil. Inadequate filtration and the contamination of ground water can occur. In most areas onsite sewage disposal systems must be specially designed because of the shallow depth. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3s.

372A—Appleton silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is in low areas and concave areas on broad upland till plains. It is mostly in the southern part of the county, but it also occurs in slightly elevated areas on the Oneida Lake Plain, in the west-central part of the county. The soil formed in glacial till derived mainly from limestone, shale, and to a lesser extent sandstone. Areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 934 acres but typically are less than 240 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil

7 to 19 inches, brown silt loam with many strong brown and reddish yellow and a few red redoximorphic concentrations, 10 percent rock fragments

19 to 27 inches, grayish brown gravelly silt loam with common strong brown and red redoximorphic concentrations, 20 percent rock fragments

Substratum

27 to 72 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 30 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Lima and Conesus soils on the higher parts of the landscape and on small knobs
- Poorly drained Lyons soils in depressions and along drainageways
- Very poorly drained soils, which are commonly identified on the soil map by a symbol for wet spots
- On the Oneida Lake Plain, some areas of Minoa soils and poorly drained Lamson soils, both of which have sandy deltaic deposits
- Small areas of Niagara soils and poorly drained Canandaigua soils on lake plains. These soils have silty lacustrine deposits.
- Small areas of Appleton soils that have slopes of more than 3 percent

Soil Properties

Appleton soil

Permeability: Moderate in the surface layer and slow or moderately slow in the subsoil and substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from December through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush or weeds. Some areas are used for cultivated crops, hay, or pasture. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness can delay tillage in spring. Surface compaction and crusting or clodding can occur if the soil is cultivated when wet. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

372B—Appleton silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on broad upland till plains. It is mostly in the southern part of the county, but it also occurs in slightly elevated areas on the Oneida Lake Plain, in the west-central part of the county. The soil formed in glacial till derived mainly from limestone, shale, and to a lesser extent sandstone. Areas of this map unit are roughly oval, elongated, or oblong. They are as much as 129 acres but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
7 to 19 inches, brown silt loam with many strong brown and reddish yellow and a few red redoximorphic concentrations, 10 percent rock fragments
19 to 27 inches, grayish brown gravelly silt loam with common strong brown and red redoximorphic concentrations, 20 percent rock fragments

Substratum
27 to 72 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 30 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Moderately well drained Lima and Conesus soils on the higher parts of the landscape and on small knobs
- Poorly drained Lyons soils in depressions and along drainageways
- Very poorly drained soils, which are commonly identified on the soil map by a symbol for wet spots
- On the Oneida Lake Plain, some areas of Minoa soils and poorly drained Lamson soils, both of which have sandy deltaic deposits
- Small areas of Niagara soils and poorly drained Canandaigua soils on lake plains. These soils have silty lacustrine deposits.
- Small areas of Appleton soils that have slopes of more than 8 percent

Soil Properties

Appleton soil

Permeability: Moderate in the surface layer and slow or moderately slow in the subsoil and substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland or are covered with brush or weeds. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Surface compaction can occur if the fields are worked when the soil is wet. Keeping equipment off the fields during wet periods helps to prevent excessive compaction. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

395—Palms muck

This very deep, nearly level, very poorly drained soil is in depressions and bogs on glacial till plains, lake plains, and outwash plains and in other areas that formerly were lakes or ponds. It formed in well decomposed organic material that is 16 to 51 inches deep over loamy deposits. Areas of this map unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 867 acres in size but typically are less than 70 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 10 inches, black (broken face and rubbed) muck, about 10 percent fiber undisturbed and 5 percent fiber rubbed

Subsurface tier

10 to 18 inches, black muck, about 15 percent fiber undisturbed and 5 percent fiber rubbed

Mineral substratum

18 to 24 inches, grayish brown silty clay loam with a few yellowish brown redoximorphic concentrations

24 to 72 inches, grayish brown silt loam with a few yellowish brown redoximorphic concentrations

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- On the same landform as the Palms soil, generally toward the center of the delineations of the unit, small areas of Carlisle soils, which formed in organic deposits that are more than 51 inches thick
- Small areas of Adrian soils, which are similar to the Palms soil but are underlain by sandy deposits
- In the slightly higher areas and near the periphery of the unit, poorly drained Canandaigua and Lamson soils, which formed in water-sorted glaciolacustrine or glaciofluvial deposits, and poorly drained Lyons and Chippewa soils, which formed in glacial till
- Wallkill soils and poorly drained Wayland soils along some drainageways and on narrow flood plains
- In the northwestern part of the county, soils that are similar to the Palms soil but have a higher content of fibers in the organic surface mantle and have a sandy substratum

Soil Properties

Palms soil

Permeability: Moderately slow through moderately rapid in the organic surface and subsurface tiers and moderate or moderately slow in the mineral substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through slightly alkaline in the organic surface and subsurface tiers and slightly acid through moderately alkaline in the mineral substratum
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are covered with water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is generally unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is generally unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock can puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, low strength, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

397—Wonsqueak muck

This very deep, nearly level, very poorly drained soil is in depressions and bogs on glacial till plains and outwash plains and in other areas that formerly were ponds. In most areas it is in the northern part of the county, at an elevation of more than 1,000 feet. The soil formed in well decomposed herbaceous and woody organic material that is 16 to 51 inches deep over loamy deposits. Areas of this unit are mainly elongated, oval, or irregular in shape. They are as much as 242 acres in size but typically are less than 40 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 12 inches, black (broken face and rubbed) muck, about 10 percent fiber rubbed

Subsurface tier

12 to 15 inches, black (broken face and rubbed) muck, about 10 percent fiber rubbed

15 to 27 inches, black (broken face and rubbed) muck, about 12 percent fiber rubbed

Mineral substratum

27 to 72 inches, grayish brown fine sandy loam with reddish brown redoximorphic concentrations

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- On the same landform as the Wonsqueak soil and generally toward the center of the unit, small areas of soils that have thicker deposits of organic material than the Wonsqueak soil
- In the slightly higher areas and near the periphery of the unit, very poorly drained Tughill, poorly drained Dannemora, and somewhat poorly drained Westbury soils, which formed in glacial till
- In the town of Steuben, a few areas of a Wonsqueak soil that is finer textured in the substratum than is typical for this map unit

Soil Properties

Wonsqueak soil

Permeability: Moderately slow through moderately rapid in the organic surface and subsurface tiers and moderately slow or moderate in the mineral substratum

Available water capacity (40-inch profile): High

Soil reaction: Extremely acid through slightly acid in the surface tier, very strongly acid through slightly acid in the subsurface tier, and strongly acid through neutral in the mineral substratum

Seasonal high water table: 1.0 foot above to 0.5 foot below the surface from September through July

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are idle and are covered with water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is generally unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock can puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

398—Dawson peat

This very deep, nearly level, very poorly drained soil is in depressions and bogs on glacial till plains, lake plains, and outwash plains and in other areas that formerly were lakes. In most areas it is in the northeastern part of the county, at an elevation of more than 1,000 feet. The soil formed in well decomposed herbaceous and woody organic material that is 16 to 51 inches deep over sandy deposits. Areas of this map unit are mainly elongated, oblong, or irregular in shape. They are as much as 124 acres in size but typically are less than 45 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface tier

0 to 6 inches, dark reddish brown (broken face and rubbed) and light reddish brown (pressed) peat, about 90 percent fiber undisturbed and 85 percent fiber rubbed

6 to 12 inches, dark reddish brown muck, about 50 percent fiber undisturbed and 8 percent fiber rubbed

Subsurface tier

12 to 20 inches, dark reddish brown muck, about 50 percent fiber undisturbed and 8 percent fiber rubbed

Mineral surface layer

20 to 23 inches, dark brown sand

Mineral substratum

23 to 72 inches, yellowish red sand

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Generally toward the center of the unit, small areas of Greenwood soils, which formed in organic deposits that are more than 51 inches thick
- In the slightly higher areas and near the periphery of the unit, small areas of somewhat poorly drained Naumburg soils, which formed in sandy glacial outwash
- In the higher areas, somewhat poorly drained Adirondack and moderately well drained Skerry soils, which formed in glacial till
- Spots of well drained Becket and Berkshire soils on a few knobs

Soil Properties

Dawson soil

Permeability: Moderately slow to moderately rapid in organic layers, moderate to rapid in the mineral surface layer, and rapid in the mineral substratum
Available water capacity (40-inch profile): High
Soil reaction: Extremely acid in the organic layers and in the mineral surface layer and extremely acid through slightly acid in the mineral substratum
Seasonal high water table: 1.0 foot above to 1.0 foot below the surface from September through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are covered with water-tolerant brush, trees, and herbaceous vegetation.

Cropland.—This unit is generally unsuited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict alteration of drainage on this unit.

Pasture.—This unit is generally unsuited to pasture because of ponding and prolonged wetness caused by the seasonal high water table. Livestock can puncture and compact the organic surface material, damaging desirable seedlings.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table and because of subsidence of the thick organic deposits, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness and ponding, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected as sites for this use. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These regulations should be investigated before a sewage disposal system is installed on this unit.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and subsidence, this unit is very limited as a site for local roads and streets. Routing the roads around areas of this unit can reduce construction costs and avoid the need for extensive alterations. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

413B—Venango silt loam, 2 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on concave footslopes, in shallow depressions, and in other areas that receive runoff from the higher adjacent soils on glaciated uplands. In most areas it is in the southern part of the county, but it also occurs in the towns of Annsville, Lee, and Western. The soil formed in firm glacial till derived from sandstone, siltstone, and shale and from small amounts of limestone. A dense fragipan is in the lower part of the subsoil (fig. 12). Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 762 acres in size but typically are less than 57 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 10 percent rock fragments
5 to 11 inches, brown silt loam, 10 percent rock fragments

Upper subsoil
11 to 23 inches, brown loam with common strong brown redoximorphic concentrations and a few light brownish gray redoximorphic depletions, 10 percent rock fragments

Figure 12.—An area of Venango silt loam, 2 to 8 percent slopes, and Venango silt loam, 8 to 15 percent slopes, in the background. The fragipan in the subsoil of these soils restricts the vertical movement of water. Somewhat poorly drained Venango silt loam, 2 to 8 percent slopes, near the house and a moderately well drained Mardin loam farther upslope have many seep areas and springs where water is channeled into the lake in the foreground during most of the year.

Subsurface layer

23 to 27 inches, grayish brown loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil

27 to 39 inches, brown, very firm channery silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments

Substratum

39 to 72 inches, dark grayish brown, firm gravelly silt loam with common or few yellowish brown and common light olive brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin soils on the higher parts of the landscape
- Poorly drained Chippewa soils in depressions and along drainageways
- Small areas of well drained Chadakoin soils, which do not have a fragipan
- A few small areas where slopes are more than 8 percent

Soil Properties

Venango soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from low through high

Soil reaction: Extremely acid through moderately acid in the surface layer, the upper subsoil, and the subsurface layer; very strongly acid through neutral in the lower subsoil; and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by the slow or very slow permeability in the dense layers in the lower subsoil and in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

413C—Venango silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat poorly drained soil is on toeslopes and footslopes, in shallow depressions, and on the slightly concave sides of hills on glaciated uplands. In most areas it is in the southern part of the county, but it also occurs in the towns of Lee and Western. The soil formed in firm glacial till derived from sandstone, siltstone, and shale and from small amounts of limestone. A dense fragipan is in the lower part of the subsoil (fig. 12). Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 168 acres in size but typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 10 percent rock fragments
5 to 11 inches, brown silt loam, 10 percent rock fragments

Upper subsoil
11 to 23 inches, brown loam with common brown redoximorphic concentrations and a few light brownish gray redoximorphic depletions, 10 percent rock fragments

Subsurface layer
23 to 27 inches, grayish brown loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil
27 to 39 inches, brown, very firm channery silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments

Substratum
39 to 72 inches, dark grayish brown, firm gravelly silt loam with common or few yellowish brown and common light olive brown redoximorphic concentrations, 20 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Mardin soils on the higher parts of the landscape
- Poorly drained Chippewa soils in depressions and along drainageways
- Small areas of well drained Chadakoin soils, which do not have a fragipan
- A few small areas where slopes are more than 15 percent

Soil Properties

Venango soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from low through high

Soil reaction: Extremely acid through moderately acid in the surface layer, the upper subsoil, and the subsurface layer; very strongly acid through neutral in the lower subsoil; and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used for pasture or hay, and a few are cultivated.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by the slow or very slow permeability in the dense layers in the lower subsoil and in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

414B—Mardin loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on hilltops and side slopes on glaciated uplands in the southern part of the county. It formed in firm glacial till. A dense fragipan is in the lower subsoil. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 37 acres in size but typically are less than 20 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown loam, 5 percent rock fragments

Upper subsoil

4 to 17 inches, yellowish brown channery loam with a few light brownish gray redoximorphic depletions, 15 percent rock fragments

17 to 21 inches, yellowish brown loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments

Subsurface layer

21 to 24 inches, grayish brown and light olive brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Lower subsoil

24 to 59 inches, dark grayish brown, very firm channery loam with a few yellowish brown redoximorphic concentrations, 25 percent rock fragments

59 to 65 inches, grayish brown, firm very channery silt loam with common light olive brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of somewhat poorly drained Venango and poorly drained Chippewa soils on the more nearly level parts of the landscape, in depressions, and along drainageways
- In the higher areas, well drained Chadakoin soils, which do not have a dense fragipan.
- On a few shoulder slopes and summits, soils that have bedrock within 60 inches of the surface
- A few small areas where slopes are more than 8 percent

Soil Properties

Mardin soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer, the upper subsoil, and the subsurface layer; very strongly acid through slightly acid in the first layer in the lower subsoil; and strongly acid through slightly alkaline in the second layer in the lower subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or woodland or are in brushy or weedy fields. Some areas are used for hay or cultivated crops.

Cropland.—This unit is well suited to cultivated crops. In some areas planting or harvesting is delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower subsoil, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness. The dense subsoil layers may slow excavation and grading. As a result, construction costs may be increased.

Septic tank absorption fields.—Wetness caused by the seasonal high water table and the slow or very slow permeability in the dense layers in the lower subsoil somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Better drained, more permeable soils should be considered when suitable sites are selected. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to dense soil layers, wetness caused by the seasonal high water table, and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in most areas.

The dense soil layers may increase the construction costs related to grading during site preparation.

The land capability subclass is 2w.

414C—Mardin loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on hilltops and side slopes on glaciated uplands in the southern part of the county. It formed in firm glacial till. A dense fragipan is in the lower subsoil. Generally, areas of this map unit are roughly oval, oblong, elongated, or irregular in shape. They are as much as 102 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown loam, 5 percent rock fragments

Upper subsoil
4 to 17 inches, yellowish brown channery loam with a few light brownish gray redoximorphic depletions, 15 percent rock fragments
17 to 21 inches, yellowish brown loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments

Subsurface layer
21 to 24 inches, grayish brown and light olive brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Lower subsoil
24 to 59 inches, dark grayish brown, very firm channery loam with a few yellowish brown redoximorphic concentrations, 25 percent rock fragments
59 to 65 inches, grayish brown, firm very channery silt loam with common light olive brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of somewhat poorly drained Venango and poorly drained Chippewa soils on the more nearly level parts of the landscape, in depressions, and along drainageways
- In the higher areas, well drained Chadakoin soils, which do not have a dense fragipan
- On a few shoulder slopes and summits, soils that have bedrock within 60 inches of the surface
- A few small areas where slopes are more than 15 percent

Soil Properties

Mardin soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and and slow or very slow in the lower subsoil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer, the upper subsoil, and the subsurface layer; very strongly acid through slightly

acid in the first layer in the lower subsoil; and strongly acid through slightly alkaline in the second layer in the lower subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used as woodland or hayland. Some areas are used for cultivated crops or pasture. A few areas are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Wetness caused by the seasonal high water table can delay planting or harvesting during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower subsoil, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls and floors also reduce the wetness. The dense subsoil layers may slow excavation and grading. As a result, construction costs may be increased.

Septic tank absorption fields.—Wetness caused by the seasonal high water table, the slow or very slow permeability in the dense layers in the lower subsoil, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Better drained, more permeable soils should be considered when suitable sites are selected. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. Installing the distribution lines along the contour of the slope can improve the performance of septic systems. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to dense soil layers, wetness caused by the seasonal high water table, the potential for frost action, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations in most areas. The dense soil layers and strong slopes may increase the construction costs related to site preparation.

The land capability subclass is 3e.

414D—Mardin loam, 15 to 25 percent slopes

This very deep, moderately steep, moderately well drained soil is on side slopes on glaciated uplands in the southern part of the county. It formed in firm glacial till. A dense fragipan is in the lower subsoil. Areas of this unit are mainly elongated or irregular in shape. They are as much as 140 acres in size but typically are less than 67 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown loam, 5 percent rock fragments

Upper subsoil
4 to 17 inches, yellowish brown channery loam with a few light brownish gray redoximorphic depletions, 15 percent rock fragments
17 to 21 inches, yellowish brown loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments

Subsurface layer
21 to 24 inches, grayish brown and light olive brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

Lower subsoil
24 to 59 inches, dark grayish brown, very firm channery loam with a few yellowish brown redoximorphic concentrations, 25 percent rock fragments
59 to 65 inches, grayish brown, firm very channery silt loam with common light olive brown redoximorphic concentrations, 40 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Small areas of somewhat poorly drained Venango and poorly drained Chippewa soils on the more nearly level parts of the landscape, in depressions, and along drainageways
- In the higher areas, well drained Chadakoin soils, which do not have a dense fragipan
- On a few shoulder slopes and summits, soils that have bedrock within 60 inches of the surface
- A few small areas where slopes are more than 25 percent

Soil Properties

Mardin soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer, the upper subsoil, and the subsurface layer; very strongly acid through slightly acid in the first layer in the lower subsoil; and strongly acid through slightly alkaline in the second layer in the lower subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush or weeds. Some areas are used for hay or pasture. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. A subsurface drainage system is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during wet periods can help to keep the pasture in good condition. Rotational grazing, proper stocking rates, applications of fertilizer, and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table and because of the depth to dense soil layers. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping, more permeable, and better drained are better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and grading and filling can reduce the adverse effects of this limitation. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

461—Marcy silt loam

This very deep, nearly level, poorly drained soil is in shallow depressions, along narrow drainageways, and in slightly concave areas on broad glacial till plains. It is mostly in the north-central part of the county, at an elevation of more than 1,000 feet. The soil formed in glacial till derived from siltstone and shale. The subsoil has a dense fragipan. Areas of this map unit are mainly elongated, oblong, long and narrow, or irregular in shape. They are as much as 501 acres in size but typically are less than 100 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 6 inches, dark brown silt loam, 10 percent rock fragments

Subsurface layer
6 to 12 inches, dark grayish brown silt loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments
12 to 14 inches, dark gray, firm loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments

Subsoil
14 to 40 inches, dark grayish brown, very firm gravelly loam with common light brownish gray redoximorphic depletions and a few yellowish brown redoximorphic concentrations, 15 percent rock fragments

Substratum
40 to 72 inches, dark grayish brown, firm gravelly loam, 20 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Moderately well drained Pinckney and somewhat poorly drained Camroden soils on the higher or more convex parts of the landscape
- In some small depressions and on the wetter parts of the landform, very poorly drained Tughill soils, which do not have a dense layer in the subsoil
- Small areas of very poorly drained Wonsqueak soils in bogs. These soils have organic deposits more than 16 inches thick.
- A few spots of Runeberg soils in areas of glacial till. These soils are less acid than the Marcy soil and do not have a fragipan.
- In the town of Lee, Marcy soils below an elevation of 1,000 feet

Soil Properties

Marcy soil
Permeability: Moderate in the surface layer and subsurface layer and very slow in the subsoil and substratum
Available water capacity (40-inch profile): Very low or low
Soil reaction: Strongly acid through neutral in the surface layer, subsurface layer, and subsoil and moderately acid through slightly alkaline in the substratum
Depth to a seasonal high water table: At the surface to 0.5 foot below the surface from November through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are idle and support water-tolerant brush, trees, and herbaceous vegetation. Some areas are used as woodland, and a few areas are used for pasture or hay.

Cropland.—This unit is poorly suited to cultivated crops because of wetness. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is only moderately suited to pasture because of wetness. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of lime and fertilizer can increase forage yields.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table and because of the dense subsoil and substratum, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table and because of the very slow permeability in the dense subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and the dense subsoil and substratum, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. The dense soil layers may increase construction costs during site preparation. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 4w.

462—Runeberg loam

This very deep, nearly level, poorly drained soil is in shallow depressions, along narrow drainageways, and in concave areas on glaciated uplands in the northern and east-central parts of the county, at an elevation of more than 1,000 feet. The soil formed in loamy glacial till. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 642 acres in size but typically are less than 75 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown loam, 3 percent rock fragments

Subsoil

9 to 12 inches, grayish brown loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments

12 to 16 inches, grayish brown, firm loam with a few dark grayish brown redoximorphic depletions and many yellowish brown redoximorphic concentrations, 10 percent rock fragments

16 to 26 inches, grayish brown, firm loam with many brownish yellow redoximorphic concentrations, 10 percent rock fragments

Substratum

26 to 72 inches, grayish brown, firm loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Tughill soils, which have a mucky surface layer and are generally more acid than the Runeberg soil
- Some areas of very poorly drained Runeberg soils
- Moderately well drained Kalurah and somewhat poorly drained Malone soils on knolls or in the higher areas
- Small pockets of organic soils in depressions
- Small areas where free carbonates are in the subsoil
- Generally in the town of Remsen, a few areas of soils that are coarser textured than Runeberg soil
- Some areas where boulders and stones are on the surface

Soil Properties

Runeberg soil

Permeability: Moderately slow in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Slightly acid or neutral in the surface layer and subsoil and slightly alkaline or moderately alkaline in the substratum
Seasonal high water table: 0.5 foot above to 0.5 foot below the surface from October through June
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used for pasture or hay.

Cropland.—This unit is poorly suited to cultivated crops because of wetness. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness. Grazing during wet periods can cause surface compaction. Also, it can damage seedlings and thus result in poor-quality forage.

Dwellings.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better suited soils should be selected for this use. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the restricted permeability in the firm substratum, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils should be selected since extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, ponding, and the potential for frost action, this unit is very limited as a site for local roads and streets. Better suited soils should be selected for this use. Additions of considerable amounts of coarse grained subgrade and base material can reduce the adverse effects of wetness and frost action in some areas. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

515A—Galway silt loam, 0 to 3 percent slopes

This moderately deep, nearly level soil is on flat hilltops on broad bedrock-controlled benches and uplands. It occurs mainly on limestone ridges in the southern part of the county. It generally is well drained but in some areas is moderately well drained. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Areas of this unit are mainly elongated or roughly oval. They are as much as 74 acres in size but typically are less than 8 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock
26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Shallow Farmington soils in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils, which average more than 35 percent clay in the subsoil
- A few small areas of soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils. In these soils the glacial till is more than 60 inches deep over limestone bedrock.
- In small depressions and on some footslopes, small areas of soils that are wetter than the Galway soil. These soils are commonly identified on the soil map by a symbol for wet spots, particularly seepage spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 3 percent

Soil Properties

Galway soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. A few areas are used as pasture or woodland or are covered with brush or weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Droughtiness may be a problem during extended dry periods in some areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing for weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The very deep adjacent soils may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 2s.

515B—Galway silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, well drained soil is on hilltops on broad bedrock-controlled benches in the uplands. It occurs mainly on limestone ridges in the southern and eastern parts of the county. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Areas of this unit are mainly elongated or roughly oval. They are as much as 97 acres in size but typically are less than 43 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock
26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Shallow Farmington soils in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils, which average more than 35 percent clay in the subsoil
- A few small areas of soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils. In these soils the glacial till is more than 60 inches deep over limestone bedrock.
- In small depressions and on some footslopes, small areas of soils that are wetter than the Galway soil. These soils are commonly identified on the soil map by a symbol for wet spots, particularly seepage spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 8 percent

Soil Properties

Galway soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland or are covered with brush or weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Droughtiness may be a problem during extended dry periods in areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing for weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The very deep adjacent soils may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 2s.

515C—Galway silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, well drained soil is on side slopes on bedrock-controlled glacial uplands. It occurs mainly on limestone ridges in the southern part of the county. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Slopes are generally irregular and may occur as a series of steps. Areas of this unit are mainly elongated or roughly oval. They are as much as 98 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock
26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Shallow Farmington soils in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils, which average more than 35 percent clay in the subsoil
- A few small areas of soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils. In these soils the glacial till is more than 60 inches deep over limestone bedrock.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 15 percent

Soil Properties

Galway soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. A few areas are covered with brush or weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Operation of tillage equipment is difficult in the included areas of more shallow soils or of rock outcrop. A conservation tillage system that leaves crop residue on surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Droughtiness may be a problem during dry periods in areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock, the moderate permeability, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The adjacent soils that are very deep and less sloping may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock, the potential for frost action, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas. Designing the roads along the contour of the slope can reduce construction and maintenance costs.

The land capability subclass is 3e.

565B—Aurora silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, moderately well drained soil is on hilltops on glaciated, bedrock-controlled uplands. It formed in a thin mantle of glacial till derived from red shale and siltstone. Areas of this map unit are oblong to elliptical. They are as much as 315 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 5 percent rock fragments

Subsoil
7 to 10 inches, brown silt loam, 3 percent rock fragments
10 to 13 inches, reddish brown silt loam with a few brownish yellow and common yellowish red redoximorphic concentrations, 2 percent rock fragments
13 to 19 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common grayish brown redoximorphic depletions, 2 percent rock fragments
19 to 22 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common light gray redoximorphic depletions, 2 percent rock fragments

Bedrock
22+ inches, red shale bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On some footslopes and in small depressions, soils that are wetter than the Aurora soil and receive more runoff. Some of the wettest inclusions and seepage spots are identified on the soil map by a symbol for wet spots.
- A few spots of somewhat poorly drained Greene soils and shallow, poorly drained Tuller soils. In these soils the glacial till overlies gray or dark bedrock.
- Very deep, well drained Lansing and Chadakoin soils in some of the higher areas where the glacial till is deeper over bedrock
- A few spots of very deep, moderately well drained Cazenovia soils on the slightly higher landforms where the deposits of glacial till are thicker
- Some areas of very deep, moderately well drained Lima, Conesus, and Amenia soils in landscape positions similar to those of the Aurora soil. These soils are in areas where the glacial till is deeper over bedrock.
- North of the Mohawk River, a few areas at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.

Soil Properties

Aurora soil

Permeability: Moderate in the surface layer and slow in the subsoil

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil and moderately acid through slightly alkaline in the lower part of the subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are in brushy or weedy fields or are used as woodland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In a few areas wetness may delay planting when the amount of rainfall is high during the planting period. Droughtiness may be a problem during extended dry periods in areas where the bedrock is close to the surface. Erosion is a hazard on long slopes. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Conservation tillage, stripcropping, and cover crops help to control erosion.

Pasture.—This unit is well suited to pasture. In some areas wetness caused by the seasonal high water table is a limitation in spring or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. Installing tile drains along the footings of dwellings, shaping the land so that surface water moves away from the dwellings, and diverting runoff away from the dwellings reduce the wetness. Dwellings without basements require less extensive alterations than dwellings with basements. In some areas additions of fill material can increase the depth to bedrock.

Septic tank absorption fields.—Because of the slow permeability in the subsoil, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited because of wetness caused by the seasonal high water table and because of the depth to bedrock. Poor filtering and the subsequent contamination of ground water can occur on this unit. The adjacent soils that are more permeable, better drained, and deeper to bedrock should be considered when sites for conventional systems are selected. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 2e.

565C—Aurora silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, moderately well drained soil is on hilltops and hillsides on bedrock-controlled, glaciated uplands. It occurs mainly south of the Mohawk River. It formed in a thin mantle of glacial till derived from red shale and siltstone. Areas of this map unit are roughly oval, oblong, or elliptical. They are as much as 89 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 5 percent rock fragments

Subsoil
7 to 10 inches, brown silt loam, 3 percent rock fragments
10 to 13 inches, reddish brown silt loam with a few brownish yellow and common yellowish red redoximorphic concentrations, 2 percent rock fragments
13 to 19 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common grayish brown redoximorphic depletions, 2 percent rock fragments
19 to 22 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common light gray redoximorphic depletions, 2 percent rock fragments

Bedrock
22+ inches, red shale bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On some footslopes and in small depressions, soils that are wetter than the Aurora soil and receive more runoff. Some of the wettest inclusions and seepage spots are identified on the soil map by a symbol for wet spots.
- A few spots of somewhat poorly drained Greene soils and shallow, poorly drained Tuller soils. In these soils the glacial till overlies gray or dark bedrock.
- Very deep, well drained Lansing, Chadakoin, and Cazenovia soils in some areas where the glacial till is deeper over bedrock
- Some areas of very deep, moderately well drained Lima, Conesus, and Amenia soils in landscape positions similar to those of the Aurora soil

Soil Properties

Aurora soil
Permeability: Moderate in the surface layer and slow in the subsoil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil and moderately acid through slightly alkaline in the lower part of the subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. A few areas are used for cultivated crops, hay, or pasture.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In a few areas wetness may delay planting when the amount of rainfall is high during the planting period. Droughtiness may be a problem during extended dry periods in areas where the bedrock is close to the surface. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas wetness caused by the seasonal high water table is a limitation in spring or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. Installing tile drains along the footings of dwellings, shaping the land so that surface water moves away from the dwellings, and diverting runoff away from the dwellings reduce the wetness. Dwellings without basements require less extensive alterations than dwellings with basements. In some areas additions of fill material can increase the depth to bedrock.

Septic tank absorption fields.—Because of the slow permeability in the subsoil, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited because of wetness caused by the seasonal high water table and because of the depth to bedrock. Poor filtering and the subsequent contamination of ground water can occur on this unit. The adjacent soils that are more permeable, better drained, and deeper to bedrock should be considered when sites for conventional systems are selected. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3e.

565D—Aurora silt loam, 15 to 25 percent slopes

This moderately deep, moderately steep, moderately well drained soil is on dissected plains and side slopes on glaciated, bedrock-controlled uplands, mainly south of the Mohawk River. It formed in a thin mantle of glacial till derived from red shale and siltstone. Areas of this map unit are elongated, oblong, or irregular in shape. They are as much as 146 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, brown silt loam, 5 percent rock fragments

Subsoil
7 to 10 inches, brown silt loam, 3 percent rock fragments
10 to 13 inches, reddish brown silt loam with a few brownish yellow and common yellowish red redoximorphic concentrations, 2 percent rock fragments
13 to 19 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common grayish brown redoximorphic depletions, 2 percent rock fragments
19 to 22 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common light gray redoximorphic depletions, 2 percent rock fragments

Bedrock
22+ inches, red shale bedrock

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Spots of somewhat poorly drained Greene soils and shallow, poorly drained Tuller soils. These soils are in areas where the glacial till overlies gray or dark bedrock.
- Some areas of well drained Lairdsville soils, which are finer textured than the Aurora soil
- Very deep, well drained Lansing, Chadakoin, and Cazenovia soils in some areas where the glacial till is deeper over bedrock
- A few areas of soils that are more than 40 inches deep over bedrock
- A few spots of well drained Farmington and Arnot soils, which are less than 20 inches deep over bedrock

Soil Properties

Aurora soil
Permeability: Moderate in the surface layer and slow in the subsoil
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil and moderately acid through slightly alkaline in the lower part of the subsoil
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Many areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for hay or pasture, and a few areas are cultivated.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. Installation of a subsurface drainage system to reduce the wetness may be difficult because of the depth to bedrock. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion and the seasonal high water table. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Minimum tillage reduces the hazard of erosion during pasture renovation. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The adjacent soils that are less sloping may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum during excavation, and temporary erosion-control structures and seeding are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the subsoil, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping, more permeable, and deeper should be considered when sites are selected for this use. Laterally moving effluent could seep out at the surface in downslope areas. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. State and local health codes may prohibit the installation of conventional systems in many areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope and low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of low strength in some areas. Designing the roads along the contour of the slope can lower construction and maintenance costs.

The land capability subclass is 4e.

565E—Aurora silt loam, 25 to 35 percent slopes

This moderately deep, steep, moderately well drained soil is on dissected plains and side slopes on glaciated, bedrock-controlled uplands, mainly south of the Mohawk River. It formed in a thin mantle of glacial till derived from red shale and siltstone. Areas of this map unit are elongated, elliptical, or irregular in shape. They range from 5 to 80 acres in size and typically are less than 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, brown silt loam, 5 percent rock fragments

Subsoil

7 to 10 inches, brown silt loam, 3 percent rock fragments

10 to 13 inches, reddish brown silt loam with a few brownish yellow and common yellowish red redoximorphic concentrations, 2 percent rock fragments

13 to 19 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common grayish brown redoximorphic depletions, 2 percent rock fragments

19 to 22 inches, reddish brown silt loam with common yellowish red redoximorphic concentrations and common light gray redoximorphic depletions, 2 percent rock fragments

Bedrock

22+ inches, red shale bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Exposed bedrock, particularly along vertical ledges
- Some areas of well drained Lairdsville soils, which are finer textured than the Aurora soil
- A few areas of soils that are more than 40 inches deep over bedrock
- A few spots of well drained Farmington and Arnot soils, which are less than 20 inches deep over bedrock
- A few areas where slopes are more than 35 percent

Soil Properties

Aurora soil

Permeability: Moderate in the surface layer and slow in the subsoil

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Moderately acid through neutral in the surface layer and the upper part of the subsoil and moderately acid through slightly alkaline in the lower part of the subsoil

Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May

Flooding: None

Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. A few areas are used for pasture or hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep slopes and a severe hazard of erosion. Because of excessive slope and in some areas exposed bedrock, operating farm equipment is hazardous.

Pasture.—This unit is only moderately suited to pasture because of steep slopes and the hazard of erosion. In many areas it is better suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. Because of the slope, extensive landscaping and grading commonly are needed. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. Erosion is a serious erosion during construction. Removal of the vegetative cover should be kept to a minimum during excavation, and temporary erosion-control structures and seeding are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the subsoil, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping, more permeable, and deeper should be considered when sites are selected for this use. Laterally moving effluent could seep out at the surface in downslope areas. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. State and local health codes may prohibit the installation of conventional systems in many areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope and low strength, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of low strength in some areas. Designing the roads along the contour of the slope can lower construction and maintenance costs.

The land capability subclass is 6e.

582A—Amenia silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on slightly concave footslopes and drumlins on broad glaciated uplands in the southern part of the county. It formed in glacial till derived mainly from limestone and calcareous shale and from small amounts of siltstone. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 80 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 5 percent rock fragments
7 to 12 inches, very dark grayish brown and yellowish brown silt loam, 5 percent rock fragments

Subsoil
12 to 20 inches, yellowish brown silt loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments
20 to 31 inches, yellowish brown gravelly silt loam with common yellowish brown redoximorphic concentrations and a few dark grayish brown redoximorphic depletions, 20 percent rock fragments

Substratum
31 to 72 inches, brown, firm gravelly loam, 25 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Amenia soil, Lima soils and soils that are more than 40 inches deep to carbonates
- Well drained Nellis and Honeoye soils on some convex landforms
- Somewhat poorly drained Kendaia soils in areas that receive more runoff or in shallow depressions
- Poorly drained Lyons soils in depressions and along drainageways. These soils may be identified on the soil map by a symbol for wet spots.
- Some areas where stones and boulders are on the surface. These areas commonly are identified on the soil map by a symbol for stony spots.
- A few areas of soils that are similar to the Amenia soil but have bedrock at a depth of 35 to 72 inches
- Small areas of Amenia soils that have slopes of more than 3 percent

Soil Properties

Amenia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through slightly alkaline in the surface layer and subsoil and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 3.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. A few areas are used as woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

582B—Amenia silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on footslopes, side slopes, and drumlins and in slightly concave areas on broad glaciated uplands in the southern part of the county. It formed in glacial till derived mainly from limestone and calcareous shale and from small amounts of siltstone. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 744 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, very dark grayish brown silt loam, 5 percent rock fragments

7 to 12 inches, very dark grayish brown and yellowish brown silt loam, 5 percent rock fragments

Subsoil

12 to 20 inches, yellowish brown silt loam with a few yellowish brown redoximorphic concentrations, 10 percent rock fragments

20 to 31 inches, yellowish brown gravelly silt loam with common yellowish brown redoximorphic concentrations and a few dark grayish brown redoximorphic depletions, 20 percent rock fragments

Substratum

31 to 72 inches, brown, firm gravelly loam, 25 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landforms as the Amenia soil, Lima soils and soils that are more than 40 inches deep to carbonates
- Well drained Nellis and Honeoye soils on some convex landforms
- Somewhat poorly drained Kendaia soils in areas that receive more runoff or in shallow depressions
- Poorly drained Lyons soils in depressions and along drainageways. These soils may be identified on the soil map by a symbol for wet spots.
- Some areas where stones and boulders are on the surface. These areas commonly are identified on the soil map by a symbol for stony spots.
- A few areas of soils that are similar to the Amenia soil but have bedrock at a depth of 35 to 72 inches
- Small areas of Amenia soils that have slopes of more than 8 percent

Soil Properties

Amenia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through slightly alkaline in the surface layer and subsoil and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 3.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture. A few areas are used as woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

747A—Manheim silt loam, 0 to 3 percent slopes

This very deep, nearly level, somewhat poorly drained soil is in slight depressions on broad plains in the glaciated uplands. In most areas it is in the town of Deerfield, at an elevation of less than 1,000 feet. The soil formed in glacial till derived mainly from dark colored, calcareous shale and from some limestone. Areas of this map unit are mainly oval, elliptical, or oblong. They are as much as 104 acres in size but typically are less than 26 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils on the same landform as the Manheim soil. These soils have a surface layer that is lighter colored than that of the Manheim soil.
- Poorly drained Lyons soils in the deeper depressions and along drainageways
- Small areas of moderately well drained Conesus and well drained Lansing soils on the higher parts of the landscape and on small knolls
- Moderately deep Greene soils and moderately deep, moderately well drained Ischua soils (warm phase) in a few bedrock-controlled areas

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. Some areas are used as pasture or hayland, and a few are cultivated. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

747B—Manheim silt loam, 3 to 8 percent slopes

This very deep, gently sloping, somewhat poorly drained soil is on hillsides and the flatter parts of broad glaciated uplands. In most areas it is in the town of Deerfield, at an elevation of less than 1,000 feet. The soil formed in till derived mainly from dark colored, calcareous shale and from some limestone. Areas of this map unit are mainly elliptical, oblong, or irregular in shape. They are as much as 270 acres in size but typically are less than 55 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils on the same landform as the Manheim soil. These soils have a surface layer that is lighter colored than that of the Manheim soil.
- Spots of poorly drained Lyons soils in depressions and along drainageways
- Moderately well drained Conesus and well drained Lansing soils on the higher parts of the landscape and on the more convex landforms
- Moderately deep Greene soils and moderately deep, moderately well drained Ischua soils (warm phase) in a few bedrock-controlled areas
- A few small areas where slopes are more than 8 percent

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or hayland or are covered with brush and weeds. Some areas are cultivated, and a few areas are used as woodland. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

747C—Manheim silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, somewhat poorly drained soil is on hillsides in the glaciated uplands in the town of Deerfield, mostly at an elevation of less than 1,000 feet. The soil formed in glacial till derived mainly from black, calcareous shale and from some limestone. Areas of this map unit are mainly oval, elliptical, or oblong. They are as much as 19 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils on the same landform as the Manheim soil. These soils have a surface layer that is lighter colored than that of the Manheim soil.
- Moderately well drained Conesus and well drained Lansing soils on the higher parts of the landscape and on the more convex landforms

- Moderately deep Greene soils and moderately deep, moderately well drained Ischua soils (warm phase) in a few bedrock-controlled areas
- A few small areas where slopes are more than 15 percent

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Mainly high but ranging from low through high
Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or pasture or are covered with brush and weeds. Some areas are used for hay or cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes, the hazard of erosion, and wetness caused by the seasonal high water table. Planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

750B—Minoa fine sandy loam, 0 to 6 percent slopes

This very deep, nearly level and gently sloping, somewhat poorly drained soil is on glacial lake plains, mostly in the west-central and central parts of the county. It formed in water-sorted glaciolacustrine and deltaic sediments. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 629 acres in size but typically are less than 110 acres. Slopes range from 0 to 6 percent. They are mainly 3 to 6 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown fine sandy loam

Subsoil

9 to 13 inches, brown fine sandy loam with many yellowish brown redoximorphic concentrations

13 to 26 inches, brown fine sandy loam with common yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions

26 to 36 inches, brown fine sandy loam with many strong brown redoximorphic concentrations

Substratum

36 to 51 inches, grayish brown loamy fine sand

51 to 72 inches, grayish brown fine sand

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- In depressions and along drainageways, poorly drained Lamson soils and soils having a mucky surface layer
- In landscape positions similar to those of the Minoa soil, spots of Wareham soils and moderately well drained Covert soils. These soils have coarser sand in the subsoil and substratum than the Minoa soil.
- Small areas of Niagara soils, which have more silt and less sand in the subsoil and substratum than the Minoa soil
- Spots of very poorly drained Palms soils in depressions. These soils have organic deposits that are 16 to 51 inches thick.

Soil Properties

Minoa soil

Permeability: Moderate in the surface layer and subsoil and moderate or moderately rapid in the substratum

Available water capacity (40-inch profile): High

Soil reaction: Strongly acid through neutral in the surface layer, moderately acid through neutral in the subsoil, and moderately acid through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Many areas of this map unit are in brushy or weedy fields or are used as pasture or woodland. Some areas are used for hay or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Artificially drained areas are suited to most of the forage and field crops commonly grown in the county. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth. Erosion is a hazard in the steeper areas, particularly where slopes are long. Contour farming, stripcropping, minimum tillage, tillage at the proper moisture levels, and crop rotations help to control erosion.

Pasture.—This unit generally is suited to pasture, especially in the drier areas. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better drained soils should be considered when sites for dwellings are selected. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. In some areas the instability of excavation walls is a safety concern during the construction of basements and trenches. Caution is needed when work is done around the excavations.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Well drained soils are better suited to this use and should be considered as alternative sites. A drainage system around the absorption field and diversions that intercept water from the higher adjacent areas can reduce the wetness. State or local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

790A—Conesus silt loam, 0 to 3 percent slopes

This very deep, nearly level, moderately well drained soil is on broad plains and in slightly concave areas on uplands, mainly south of the Mohawk River. It formed in glacial till derived mainly from limestone and shale and from some siltstone and sandstone. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 274 acres in size but typically are less than 30 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 8 percent rock fragments

Subsoil
7 to 13 inches, dark yellowish brown and brown silt loam, 10 percent rock fragments
13 to 24 inches, dark yellowish brown silt loam with common strong brown redoximorphic concentrations, 10 percent rock fragments
24 to 35 inches, brown gravelly silty clay loam with a few strong brown and yellowish red redoximorphic concentrations, 15 percent rock fragments
35 to 42 inches, dark grayish brown gravelly silt loam with a few strong brown and yellowish red redoximorphic concentrations, 30 percent rock fragments

Substratum
42 to 72 inches, dark grayish brown and grayish brown, firm very gravelly silt loam with common yellowish brown and brownish yellow redoximorphic concentrations, 45 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Kendaia and poorly drained Lyons soils on the more nearly level parts of the unit, in depressions, and along drainageways
- Well drained Lansing and Honeoye soils on knolls and in the higher areas
- Some areas of Lima soils, which have carbonates at a depth of less than 30 inches
- Small areas of Conesus soils that have slopes of more than 3 percent

Soil Properties

Conesus soil
Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Mainly high but moderate in some areas
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland or are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. Growing winter cover crops and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the slow or very slow permeability in the dense substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

790B—Conesus silt loam, 3 to 8 percent slopes

This very deep, gently sloping, moderately well drained soil is on footslopes, side slopes, and drumlins on broad glaciated uplands. It is mainly south of the Mohawk River and in the east-central part of the county, but it also occurs in some small areas on the Oneida Lake Plain, in the west-central part of the county. The soil formed in glacial till derived mainly from limestone and shale and from some siltstone and sandstone. Generally, areas of this map unit are roughly oval, elongated, oblong, or irregular in shape. They are as much as 576 acres in size but typically are less than 110 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark brown silt loam, 8 percent rock fragments

Subsoil

7 to 13 inches, dark yellowish brown and brown silt loam, 10 percent rock fragments

13 to 24 inches, dark yellowish brown silt loam with common strong brown redoximorphic concentrations, 10 percent rock fragments

24 to 35 inches, brown gravelly silty clay loam with a few strong brown and yellowish red redoximorphic concentrations, 15 percent rock fragments

35 to 42 inches, dark grayish brown gravelly silt loam with a few strong brown and yellowish red redoximorphic concentrations, 30 percent rock fragments

Substratum

42 to 72 inches, dark grayish brown and grayish brown, firm very gravelly silt loam with common yellowish brown and brownish yellow redoximorphic concentrations, 45 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Kendaia and poorly drained Lyons soils on the more nearly level parts of the unit, in depressions, and along drainageways
- Well drained Lansing and Honeoye soils on knolls and in the higher areas
- Some areas of Lima soils, which have carbonates at a depth of less than 30 inches
- In the town of Deerfield, areas of Conesus soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.
- On the Oneida Lake Plain, somewhat poorly drained Appleton soils in some of lower areas, which receive more runoff
- Small areas of Conesus soils that have slopes of more than 8 percent

Soil Properties

Conesus soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Mainly high but moderate in some areas
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or pasture. Some areas are used as woodland or are covered with brush or weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Seasonal wetness can delay tillage in spring. A system of surface and subsurface drains reduces the wetness. Erosion is a hazard in the steeper areas and on long slopes. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Growing winter cover crops, using crop rotations, and returning crop residue to the soil help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Proper stocking rates, rotational grazing, and yearly mowing for control of brush and weeds increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and the slow or very slow permeability in the dense substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

790C—Conesus silt loam, 8 to 15 percent slopes

This very deep, strongly sloping, moderately well drained soil is on broad plains and in slightly convex areas on uplands, mainly south of the Mohawk River and in the east-central part of the county. It formed in glacial till derived mainly from limestone and shale and from some siltstone and sandstone. Areas of this unit are mainly elongated, elliptical, or irregular in shape. They are as much as 255 acres in size but typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, dark brown silt loam, 8 percent rock fragments

Subsoil
7 to 13 inches, dark yellowish brown and brown silt loam, 10 percent rock fragments
13 to 24 inches, dark yellowish brown silt loam with common strong brown redoximorphic concentrations, 10 percent rock fragments
24 to 35 inches, brown gravelly silty clay loam with a few strong brown and yellowish red redoximorphic concentrations, 15 percent rock fragments
35 to 42 inches, dark grayish brown gravelly silt loam with a few strong brown and yellowish red redoximorphic concentrations, 30 percent rock fragments

Substratum
42 to 72 inches, dark grayish brown and grayish brown, firm very gravelly silt loam with common yellowish brown and brownish yellow redoximorphic concentrations, 45 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Kendaia and poorly drained Lyons soils in the less sloping areas, in depressions, and along drainageways
- Well drained Lansing and Honeoye soils on knolls and in the higher areas

- Some areas of Lima soils, which have carbonates at a depth of less than 30 inches
- In the towns of Deerfield, Marcy, and Trenton, areas of Conesus soils at an elevation of more than 1,000 feet. These areas have fewer frost-free days than is typical for this map unit.

Soil Properties

Conesus soil

Permeability: Moderate in the surface layer and subsoil and slow or very slow in the substratum
Available water capacity (40-inch profile): Mainly high but moderate in some areas
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from March through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush or weeds. Some areas are used for cultivated crops, pasture, or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Wetness in spring can delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction. Proper stocking rates, rotational grazing, applications of fertilizer, and yearly mowing for brush and weed control increase the quantity and quality of forage.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Installing interceptor drains that divert water from the higher areas reduces the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—The seasonal high water table, the slow or very slow permeability in the dense substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Less sloping, more permeable soils may be better suited to this use. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of septic tank absorption fields in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The seasonal high water table, the potential for frost action, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. A drainage system is needed. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage. The roads should be designed so that they conform to the natural slope of the land.

The land capability subclass is 3e.

801B—Alton gravelly loam, 3 to 8 percent slopes, cool

This very deep, gently sloping, somewhat excessively drained soil is on hilltops and hillsides on broad outwash plains, high terraces, and kames. It is in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They range from 7 to 103 acres in size and typically are less than 45 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—
- A few small areas of moderately well drained Castile soils (cool phase) and somewhat poorly drained Fredon soils (cool phase) in small depressions and along drainageways
- In the deeper or larger depressions, a few small areas of very poorly drained Halsey soils (cool phase)
- In some spots along the edges of the outwash deposits, well drained Pyrities and moderately well drained Kalurah soils, which formed in calcareous glacial till
- In a few small depressions along the edges of the outwash deposits, somewhat poorly drained Malone and poorly drained Runeberg soils, which formed in glacial till

Soil Properties

Alton soil
Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are used for cultivated crops or woodland or are in weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. When managed properly, the soil can be cultivated intensively. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods or in mid or late summer. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—Seepage of effluent, which results from rapid permeability in the substratum, somewhat limits the use of this unit as a site for septic tank absorption fields. Poor filtering of the effluent can result in the contamination of ground water and of nearby water bodies. The adjacent soils that have a better filtering capacity should be considered as alternative sites in some areas. Specially designed systems may be required to prevent the contamination of ground water. State and local health codes may affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

This cool phase is a taxadjunct to the Alton series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

801C—Alton gravelly loam, 8 to 15 percent slopes, cool

This very deep, strongly sloping, somewhat excessively drained soil is on hilltops and hillsides on broad outwash plains, high terraces, and kames. It occurs in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated or irregular in shape. They range from 6 to 157 acres in size and typically are less than 53 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the unit. They are as much as 5 acres in size. They are as follows—

- A few small areas of moderately well drained Castile soils (cool phase) and somewhat poorly drained Fredon soils (cool phase) in small depressions and along drainageways
- In the deeper or larger depressions, a few very small areas of very poorly drained Halsey soils (cool phase)
- In some spots along the edges of the outwash deposits, well drained Pyrities and moderately well drained Kalurah soils, which formed in calcareous glacial till
- In a few small depressions along the edges of the outwash deposits, somewhat poorly drained Malone and poorly drained Runeberg soils, which formed in glacial till

Soil Properties

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are used for cultivated crops or woodland or are in weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. In some areas droughtiness may be a problem during extended dry periods or in mid or late summer. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer, applications of lime in some areas, and weed control increase the quantity and quality of forage.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Land shaping and grading are needed. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of seepage of effluent through the rapidly permeable substratum and because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. Poor filtering of the effluent can result in the contamination of ground water and of nearby water bodies. In some areas the less sloping adjacent soils that have a better filtering capacity should be considered as alternative sites. Some areas of this unit may require specially designed systems to prevent the contamination of ground water. State and local health codes affect the design of septic tank absorption fields on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the potential for frost damage.

The land capability subclass is 3e.

This cool phase is a taxadjunct to the Alton series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

802D—Howard and Alton gravelly loams, 15 to 25 percent slopes, cool

This unit consists of very deep, moderately steep soils that are dominantly somewhat excessively drained. It is on glacial outwash terraces, eskers, moraines, valley walls, and kames in the northern part of the county, mostly at an elevation of more than 1,000 feet. The soils formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 146 acres in size but typically are less than 48 acres. Some areas consist mainly of Howard soil, and other areas consist of mainly Alton soil. The Howard and Alton soils are mapped together because they have similar use and management requirements. The map unit consists of about 60 percent Howard soil, 30 percent Alton soil, and 10 percent other soils.

The typical sequence, depth, and composition of the layers of the Howard soil are as follows—

Surface layer
0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil
11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments
20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments
29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum
44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent
75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

The typical sequence, depth, and composition of the layers of the Alton soil are as follows

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum
58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have fewer rock fragments than the Howard and Alton soils
- Small areas of moderately well drained Phelps soils (cool phase), somewhat poorly drained Fredon soils (cool phase), and very poorly drained Halsey soils (cool phase) in small depressions and along drainageways
- A few small areas of soils that are similar to the Alton soil but do not have carbonates within a depth of 80 inches
- Small areas where slopes are more than 25 percent

Soil Properties

Howard soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum
Available water capacity (40-inch profile): Moderate
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or pasture. Some areas are used for hay or are in brushy or weedy fields.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Excessive slope is the main limitation affecting the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Excessive slope and in some areas the poor filtering capacity of these soils are the main limitations on sites for conventional septic tank absorption fields. Contamination of the ground water and of nearby water bodies can occur because of rapid or very rapid permeability in the substratum. The adjacent soils that are less sloping and have a better filtering capacity are better suited to conventional systems. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems in some areas because of excessive slope and rapid or very rapid permeability in the substratum. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

The major components of this map unit, which are cool phases, are taxadjuncts to the Howard and Alton series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soils.

802E—Howard and Alton gravelly loams, 25 to 45 percent slopes, cool

This unit consists of very deep, steep and very steep, somewhat excessively drained soils on glacial outwash terraces, eskers, moraines, valley walls, and kames in the northern part of the county, mostly at an elevation of more than 1,000 feet. These soils formed in gravelly outwash deposits and water-sorted moraine deposits. Areas of this map unit are mainly long and narrow or irregular in shape. They range from 30 to 560 acres in size and typically are less than 65 acres. Some areas consist mainly of Howard soil, and other areas consist of mainly Alton soil. The Howard and Alton soils are mapped together because they have similar use and management requirements. The map unit consists of about 60 percent Howard soil, 30 percent Alton soil, and 10 percent other soils.

The typical sequence, depth, and composition of the layers of the Howard soil are as follows—

Surface layer
0 to 11 inches, dark brown gravelly loam, 15 percent rock fragments

Subsoil
11 to 20 inches, dark yellowish brown very gravelly loam, 35 percent rock fragments
20 to 29 inches, dark brown very gravelly loam, 45 percent rock fragments
29 to 44 inches, dark brown very gravelly sandy loam, 55 percent rock fragments

Substratum
44 to 75 inches, dark brown extremely gravelly sandy loam, 60 percent rock fragments, strongly effervescent
75 to 100 inches, grayish brown, stratified loamy sand, sand, and extremely gravelly sand, strongly effervescent

The typical sequence, depth, and composition of the layers of the Alton soil are as follows—

Surface layer
0 to 9 inches, dark brown gravelly loam, 20 percent rock fragments

Subsoil
9 to 24 inches, yellowish brown very gravelly fine sandy loam, 35 percent rock fragments
24 to 40 inches, yellowish brown very gravelly sandy loam, 45 percent rock fragments
40 to 58 inches, yellowish brown very gravelly sandy loam, 55 percent rock fragments

Substratum

58 to 72 inches, dark yellowish brown very gravelly loamy sand, 50 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Soils that have fewer rock fragments than the Howard and Alton soils
- Small areas of moderately well drained Phelps soils (cool phase), somewhat poorly drained Fredon soils (cool phase), and very poorly drained Halsey soils (cool phase) in small depressions and along drainageways
- A few small areas of soils that are similar to the Alton soil but do not have carbonates within a depth of 80 inches
- A few areas where slopes are more than 45 percent

Soil Properties

Howard soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and very rapid in the substratum

Available water capacity (40-inch profile): Moderate

Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Alton soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid or strongly acid in the surface layer, strongly acid through neutral in the subsoil, and neutral or slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used as pasture, and a few areas are covered with brush.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous. Cultivated areas are subject to severe erosion.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Excessive slope is the main limitation if this unit is used as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping are better sites for dwellings.

Septic tank absorption fields.—Because of excessive slope and in some areas the poor filtering capacity of the soils, this unit is very limited as a site for conventional septic tank absorption fields. Laterally moving effluent could seep out at the surface in downslope areas. Contamination of the ground water and of nearby water bodies can occur because of rapid or very rapid permeability in the substratum. The adjacent soils that are less sloping and have a better filtering capacity are better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas because of excessive slope and rapid or very rapid permeability in the substratum. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope is the main limitation if this unit is used as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. Planning the location and grade of the roads and streets so that they conform to the slope and contour of the land and grading and filling can reduce the adverse effects of this limitation in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

The major components of this map unit, which are cool phases, are taxadjuncts to the Howard and Alton series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soils.

804—Chippewa silt loam, stony

This very deep, nearly level, poorly drained soil is in shallow depressions, along narrow drainageways, and in concave areas on broad glaciated uplands. It occurs mostly in the western and northwestern parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from siltstone, sandstone, and shale. The subsoil has a dense fragipan. Compared to the Chippewa soil mapped in the southern part of the county, this soil typically has redder hues in the upper part. Also, it has a lithologic discontinuity in the substratum in some areas. Stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated or irregular in shape. They are as much as 409 acres in size but typically are less than 90 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 7 inches, very dark grayish brown silt loam, 5 percent rock fragments

Upper subsoil
7 to 14 inches, dark grayish brown silt loam with common yellowish brown redoximorphic concentrations, 5 percent rock fragments

Subsurface layer
14 to 16 inches, dark gray, firm silt loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments

Lower subsoil
16 to 42 inches, dark grayish brown, very firm channery silt loam with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

Substratum

42 to 72 inches, brown, very firm channery silt loam with a few dark yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landform as the Chippewa soil, soils that are similar to Chippewa soil but have slightly less clay in the solum
- Some areas of very poorly drained Chippewa soils
- Moderately well drained Empeyville soils (warm phase) and somewhat poorly drained Westbury soils (warm phase) on the higher or more convex parts of the landscape
- Well drained to very poorly drained Udifluvents and Fluvaquents along some narrow drainageways. These soils are subject to frequently flooding.
- Small areas of very poorly drained Palms soils, which have organic deposits more than 16 inches thick
- A few spots of well drained Worth soils (warm phase) along the edges of the unit and on the higher small knolls
- A few areas where more boulders or stones are on the surface than is typical for the unit
- Some spots of somewhat excessively drained Chenango and excessively drained Windsor soils along the contact with glacial outwash deposits

Soil Properties

Chippewa soil

Permeability: Moderate in the surface layer, the upper subsoil, and the subsurface layer and slow or very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Very low or low

Soil reaction: Very strongly acid through slightly acid in the surface layer, the upper subsoil, and the subsurface layer; strongly acid through neutral in the lower subsoil; and moderately acid through slightly alkaline in the substratum

Seasonal high water table: 0.5 foot above to 0.5 below the surface from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used as pasture.

Cropland.—This unit is generally not suited to cultivated crops because of wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is poorly suited to pasture because of wetness caused by the seasonal high water table. Management that excludes livestock from the pasture during wet periods, proper stocking rates, and rotational grazing help to keep the pasture in good condition. In some areas weed control and applications of fertilizer increase forage yields.

Dwellings.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the dense subsoil and substratum, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of prolonged wetness caused by the seasonal high water table, ponding, and the slow or very slow permeability in the dense subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, ponding, the potential for frost action, and the dense subsoil and substratum, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. The dense soil layers may increase construction costs during site preparation. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

807A—Manheim silt loam, 0 to 3 percent slopes, cool

This very deep, nearly level, somewhat poorly drained soil is in slightly concave areas on broad glaciated uplands. In most areas it is in the towns of Deerfield and Marcy, at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from dark colored, calcareous shale and from some limestone. Areas of this map unit are mainly oval, elliptical, or oblong. They generally range from 18 to 28 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils (cool phase) on the same landforms as the Manheim soil
- Moderately well drained Conesus soils (cool phase) on the higher parts of the landscape and on small knolls
- Small areas of poorly drained Lyons soils (cool phase) in depressions and along drainageways
- Moderately deep Gretor and Ischua soils in a few bedrock-controlled areas
- A few small areas where slopes are more than 3 percent

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as pasture or hayland or are covered with brush and weeds. Some areas are used as woodland or are cultivated. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This cool phase is a taxadjunct to the Manheim series because the soil temperature is slightly lower than the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

807B—Manheim silt loam, 3 to 8 percent slopes, cool

This very deep, gently sloping, somewhat poorly drained soil is on hillsides and the flatter parts of broad glaciated uplands. In most areas it is in the towns of Deerfield and Marcy, at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from dark colored, calcareous shale and from some limestone. Areas of this map unit are mainly elliptical, oblong, or irregular in shape. They are as much as 693 acres in size but typically are less than 150 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils (cool phase) on the same landforms as the Manheim soil
- Moderately well drained Conesus soils (cool phase) on the higher parts of the landscape and on the more convex landforms
- Spots of poorly drained Lyons soils (cool phase) in depressions and along drainageways
- Moderately deep Gretor and Ischua soils in a few bedrock-controlled areas
- A few small areas where slopes are more than 8 percent

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are covered with brush and weeds or are used as woodland. Some areas are used for pasture, hay, or cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This cool phase is a taxadjunct to the Manheim series because the soil temperature is slightly lower than the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

807C—Manheim silt loam, 8 to 15 percent slopes, cool

This very deep, strongly sloping, somewhat poorly drained soil is on hillsides in the glaciated uplands. In most areas it is in the towns of Deerfield and Marcy, at an elevation of more than 1,000 feet. The soil formed in glacial till derived mainly from dark colored, calcareous shale and from some limestone. Areas of this map unit are mainly oval, elliptical, or oblong. They are as much as 83 acres in size but typically are less than 55 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

4 to 9 inches, very dark grayish brown and dark brown silt loam, 10 percent rock fragments

Subsoil

9 to 19 inches, dark brown channery silt loam with brown faces of peds and with a few yellowish brown redoximorphic concentrations and grayish brown redoximorphic depletions, 15 percent rock fragments

19 to 29 inches, dark brown channery silt loam with dark grayish brown faces of peds, with thin lenses of very fine sandy loam, and with common dark yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 15 percent rock fragments

Substratum

29 to 41 inches, dark grayish brown channery silt loam with thin lenses of silty clay loam and with common yellowish brown redoximorphic concentrations, 20 percent rock fragments

41 to 72 inches, dark grayish brown gravelly silty clay loam with common yellowish brown redoximorphic concentrations, 30 percent rock fragments

Included Areas

Included areas make up about 35 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Kendaia soils (cool phase) on the same landforms as the Manheim soil
- Moderately well drained Conesus soils (cool phase) on the higher parts of the landscape and on the more convex landforms
- Moderately deep Gretor and Ischua soils in a few bedrock-controlled areas
- A few small areas where slopes are more than 15 percent

Soil Properties

Manheim soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Mainly high but ranging from low through high

Soil reaction: Moderately acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or pasture or are covered with brush and weeds. Some areas are used for hay or cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes, the hazard of erosion, and wetness caused by the seasonal high water table. Planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

This cool phase is a taxadjunct to the Manheim series because the soil temperature is slightly lower than the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

811B—Empeyville loam, 3 to 8 percent slopes, stony, warm

This very deep, gently sloping, moderately well drained soil is in slight depressions and on broad hillsides and hilltops in the glaciated uplands. It is mainly in the northwestern and west-central parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 275 acres in size but typically are less than 85 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, root mat and highly decomposed organic material
1 to 3 inches, black loam, 5 percent rock fragments

Upper subsoil
3 to 11 inches, dark brown channery loam, 30 percent rock fragments
11 to 17 inches, dark brown channery fine sandy loam, 15 percent rock fragments

Subsurface layer
17 to 20 inches, dark yellowish brown fine sandy loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil
20 to 31 inches, yellowish brown, firm channery fine sandy loam, 20 percent rock fragments

Substratum
31 to 72 inches, yellowish brown cobbly fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Worth soils (warm phase) on the more convex and higher parts of the landscape

- In areas where the glacial till is more friable, spots of well drained Chadakoin soils, which do not have a fragipan
- Somewhat poorly drained Westbury soils (warm phase) in depressions and on footslopes and toeslopes
- Some spots of poorly drained Chippewa soils along drainageways and in the deeper depressions
- Some small areas where slopes are more than 8 percent

Soil Properties

Empeyville soil

Permeability: Moderate in the mineral surface layer, the upper subsoil, and the suburface layer and moderate through very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through slightly acid in the surface layer, very strongly acid through slightly acid in the subsurface layer and subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the dense subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets.

Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2w.

This map unit is a taxadjunct to the Empeyville soil because it occurs mainly in mesic areas in the northwestern and west-central parts of the county, at an elevation of less than 1,000 feet.

811C—Empeyville loam, 8 to 15 percent slopes, stony, warm

This very deep, strongly sloping, moderately well drained soil is in slightly concave areas on hillsides and hilltops in the glaciated uplands. It is mainly in the northwestern and west-central parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They are as much as 63 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 1 inch, root mat and highly decomposed organic material
1 to 3 inches, black loam, 5 percent rock fragments

Upper subsoil
3 to 11 inches, dark brown channery loam, 30 percent rock fragments
11 to 17 inches, dark brown channery fine sandy loam, 15 percent rock fragments

Subsurface layer
17 to 20 inches, dark yellowish brown fine sandy loam with common yellowish brown redoximorphic concentrations, 12 percent rock fragments

Lower subsoil
20 to 31 inches, yellowish brown, firm channery fine sandy loam, 20 percent rock fragments

Substratum
31 to 72 inches, yellowish brown cobbly fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Worth soils (warm phase) on the more convex and higher parts of the landscape
- In areas where the glacial till is more friable, spots of Chadakoin soils, which do not have a fragipan
- Somewhat poorly drained Westbury soils (warm phase) in depressions and on footslopes and toeslopes
- A few small areas of poorly drained Chippewa soils along drainageways and in the deeper depressions
- Small areas where slopes are more than 15 percent

Soil Properties

Empeyville soil

Permeability: Moderate in the mineral surface layer, the upper subsoil, and the subsurface layer and moderate through very slow in the lower subsoil and in the substratum

Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate

Soil reaction: Extremely acid through slightly acid in the surface layer, very strongly acid through slightly acid in the subsurface layer and subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used for pasture, hay, or cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit is well suited to pasture. In some areas wetness in spring may delay early season grazing. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, restricted permeability in the dense subsoil and substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of frost action and the water table. Designing the roads so that they follow the contour of the slope as much as possible minimizes construction costs.

The land capability subclass is 3e.

This map unit is a taxadjunct to the Empeyville soil because it occurs mainly in mesic areas in the northwestern and west-central parts of the county, at an elevation of less than 1,000 feet.

813B—Gretor silt loam, 3 to 8 percent slopes

This moderately deep, gently sloping, somewhat poorly drained soil is on ridgetops and benches in the glaciated uplands. It occurs in the towns of Deerfield, Trenton, Floyd, and Marcy, mostly at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, siltstone, and sandstone bedrock. Areas of this map unit are mainly elliptical, roughly oval, or irregular in shape. They are as much as 240 acres in size but typically are less than 75 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil

9 to 17 inches, dark grayish brown channery silt loam with common light yellowish brown and a few yellowish brown redoximorphic concentrations, 20 percent rock fragments

17 to 22 inches, grayish brown channery silt loam with many dark yellowish brown and common dark brown redoximorphic concentrations, 15 percent rock fragments

Substratum

22 to 29 inches, brown, firm channery loam with many dark yellowish brown redoximorphic concentrations and common gray redoximorphic depletions, 20 percent rock fragments

Bedrock

29+ inches, dark gray, massive, hard, fine grained sandstone bedrock that is very fractured in the upper 6 inches

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Small areas of shallow, poorly drained Torull soils on the same landforms as the Gretor soil
- Soils that have a high content of shale fragments in the surface layer
- Spots of exposed bedrock
- Moderately deep, moderately well drained Ischua soils on the higher parts of the landscape and on the more convex landforms
- A few spots of Kendaia soils (cool phase) and Manheim soils (cool phase) in areas where the glacial till is deeper over bedrock
- A few small areas where slopes are more than 8 percent

Soil Properties

Gretor soil

Permeability: Moderate or moderately slow throughout the mineral soil
Available water capacity (40-inch profile): Low or moderate

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 0.5 to 1.0 foot from November through June
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as pasture or woodland. Some areas are used for hay, and a few areas are cropped on a limited basis. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table and in some areas the depth to bedrock. Wetness may delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. Conservation tillage, stripcropping, cover crops, applications of fertilizer, and the return of crop residue to the soil help to maintain the content of organic matter and improve tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is generally suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation in late fall, in spring, or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the depth to bedrock. Installing tile drains along the footings of dwellings and shaping the land so that surface water moves away from the dwellings reduce the wetness. In many areas additions of fill material are needed around the dwellings.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of restricted permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Also, it is very limited by the depth to bedrock in some areas. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered when sites for conventional systems are selected. Poor filtering and contamination of the ground water can occur on this unit. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3w.

813C—Gretor silt loam, 8 to 15 percent slopes

This moderately deep, strongly sloping, somewhat poorly drained soil is on glaciated uplands that are bedrock controlled. It occurs in the towns of Deerfield, Trenton, Floyd, and Marcy, mostly at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, siltstone, and sandstone bedrock. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 80 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
9 to 17 inches, dark grayish brown channery silt loam with common light yellowish brown and a few yellowish brown redoximorphic concentrations, 20 percent rock fragments
17 to 22 inches, grayish brown channery silt loam with many dark yellowish brown and common dark brown redoximorphic concentrations, 15 percent rock fragments

Substratum
22 to 29 inches, brown, firm channery loam with many dark yellowish brown redoximorphic concentrations and common gray redoximorphic depletions, 20 percent rock fragments

Bedrock
29+ inches, dark gray, massive, hard, fine grained sandstone bedrock that is very fractured in the upper 6 inches

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 3 acres in size. They are as follows—
- Small areas of shallow, poorly drained Torull soils on the same landforms as the Gretor soil
- Soils that have a high content of shale fragments in the surface layer
- Spots of exposed bedrock
- Moderately deep, moderately well drained Ischua soils on the higher parts of the landscape and on the more convex landforms
- A few spots of Kendaia soils (cool phase) and Manheim soils (cool phase) in areas where the glacial till is deeper over bedrock
- A few small areas where slopes are more than 15 percent

Soil Properties

Gretor soil
Permeability: Moderate or moderately slow throughout the mineral soil
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 0.5 to 1.0 foot from November through June
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as pasture or woodland. Some areas are used for hay. A few areas are cropped on a limited basis.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. In some areas the depth to bedrock also is a limitation. Wetness may delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. Keeping equipment off the fields during wet periods helps to prevent excessive surface compaction. A conservation tillage system that leaves crop residue on the surface after planting, cover crops, contour farming, and stripcropping help to control erosion. Crops and crop varieties that mature early in the growing season are desirable because this unit commonly occurs in areas where the number of growing degree days is fewer than the average for the county. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is generally suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation in late fall, in spring, or following periods of heavy rainfall. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing for control of weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the depth to bedrock. Installing tile drains along the footings of dwellings and shaping the land so that surface water moves away from the dwellings reduce the wetness. In many areas additions of fill material are needed around the dwellings.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of restricted permeability in the subsoil and substratum, this unit is very limited as a site for conventional septic tank absorption fields. Also, it is very limited by the depth to bedrock in some areas. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered when sites for conventional systems are selected. Poor filtering and contamination of the ground water can occur on this unit. In some areas a raised absorption bed surrounded by a curtain drain can increase the effectiveness of the system. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of wetness caused by the seasonal high water table and because of the potential for frost action. Constructing the roads on raised additions of coarse grained subgrade and base material and installing a drainage system can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 3e.

814—Gretor-Torull complex

This unit consists of a nearly level, somewhat poorly drained, moderately deep Gretor soil and a nearly level, shallow, poorly drained Torull soil. It is on bedrock-controlled ridgetops and benches in the northern part of the county, mostly at an elevation of more than 1,000 feet. In some areas the unit has a “stairstep” appearance because of bedrock ledges. The soils formed in a thin mantle of glacial till that is low in content of lime and is underlain by shale, sandstone, and siltstone bedrock. The map unit consists of about 45 percent Gretor soil, 35 percent Torull soil, and 20 percent other soils. The Gretor and Torull soils occur in such an intricate pattern that separating them in mapping was not practical. Areas of this map unit are mainly elliptical, long and narrow, or irregular in shape. They are as much as 165 acres in size but typically are less than 50 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of the Gretor soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil

9 to 17 inches, dark grayish brown channery silt loam with common light yellowish brown and a few yellowish brown redoximorphic concentrations, 20 percent rock fragments

17 to 22 inches, grayish brown channery silt loam with many dark yellowish brown and common dark brown redoximorphic concentrations, 15 percent rock fragments

Substratum

22 to 29 inches, brown, firm channery loam with many dark yellowish brown redoximorphic concentrations and common gray redoximorphic depletions, 20 percent rock fragments

Bedrock

29+ inches, dark gray, massive, hard, fine grained sandstone bedrock that is very fractured in the upper 6 inches

The typical sequence, depth, and composition of the layers of the Torull soil are as follows—

Surface layer

0 to 5 inches, very dark grayish brown silt loam, 1 percent rock fragments

5 to 7 inches, very dark gray silt loam, 5 percent rock fragments

Subsoil

7 to 15 inches, grayish brown silt loam with common dark yellowish brown redoximorphic concentrations and a few gray redoximorphic depletions, 10 percent rock fragments

Bedrock

15+ inches, grayish brown, massive sandstone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Small areas of exposed bedrock
- Soils that have a high content of shale fragments in the surface layer
- Some areas of somewhat poorly drained Torull soils
- Moderately deep, moderately well drained Ischua soils on the higher parts of the landscape and on the more convex landforms
- Shallow, well drained soils on the highest parts of the landforms and along the edges of bedrock benches
- A few areas of soils that have bedrock at a depth of less than 10 inches

- In areas where the glacial till is deeper over bedrock, a few spots of very deep, somewhat poorly drained Kendaia soils (cool phase) and very deep, somewhat poorly drained Manheim soils (cool phase)
- A few small areas where slopes are more than 3 percent

Soil Properties

Gretor soil

Permeability: Moderate or moderately slow throughout the mineral soil
Available water capacity (40-inch profile): Low or moderate
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum
Depth to a seasonal high water table: 0.5 to 1.0 foot from November through June
Flooding: None
Depth to bedrock: 20 to 40 inches

Torull soil

Permeability: Moderate in the surface layer and slow or moderately slow in the subsoil and substratum
Available water capacity (40-inch profile): Very low
Soil reaction: Very strongly acid or strongly acid throughout in unlimed areas, ranging to moderately acid in limed areas
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from November through June
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as woodland. Some areas are used for pasture or hay, and a few areas are cropped on a limited basis.

Cropland.—This unit is poorly suited to cultivated crops because of the depth to bedrock, seasonal wetness, and the very low available water capacity of the Torull soil, especially during droughty periods.

Pasture.—The Torull soil is poorly suited to pasture because of the shallow depth to bedrock. It is often droughty during summer and is wet because of the seasonal high water table in spring and late fall. The Gretor soil is better suited to pasture, but wetness is a problem. Excluding livestock from the pasture during wet periods and during droughty periods can help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the depth to bedrock, this unit is very limited as a site for dwellings. In some areas the bedrock is massive and cannot be easily ripped during excavation. A better site should be considered for this use. Where dwellings are constructed on this unit, those without basements require less extensive alterations. In some areas additions of fill material can increase the depth to bedrock. Wetland regulations should be investigated before dwellings are constructed on the poorly drained Torull soil.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, the depth to bedrock, and restricted permeability in the substratum of the Gretor soil, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are better drained, more permeable, and deeper to bedrock should be considered for this use. State and local health codes may prohibit use of the unit as a site for conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the depth to bedrock, and the potential for frost action, this unit is very limited as a site for local roads and streets. Routing the roads around areas where the soil is poorly drained or shallow to bedrock can reduce construction and maintenance costs. In some areas constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of the limitations affecting this use. Wetland regulations may prohibit or restrict road construction, additions of fill, or alterations of the drainage in the wettest areas of this unit. These regulations should be investigated before roads and streets are constructed on the unit.

Land capability subclass: Gretor soil—3w; Torull soil—4w.

816B—Herkimer channery silt loam, 3 to 8 percent slopes, cool

This very deep, gently sloping, moderately well drained soil is on alluvial fans. It occurs where the Black River flows through areas dominated by dark colored, calcareous shale in the town of Boonville, at an elevation of more than 1,000 feet. The soil formed in water-sorted shale and gravel deposits derived from alluvium and outwash. Areas of this map unit are mainly oblong. They range from 13 to 41 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, very dark grayish brown channery silt loam, 15 percent rock fragments

Subsoil

8 to 26 inches, dark grayish brown channery silt loam, 15 percent rock fragments

26 to 35 inches, dark grayish brown channery silt loam with common brownish yellow redoximorphic concentrations and a few light brownish gray redoximorphic depletions, 20 percent rock fragments

Substratum

35 to 40 inches, dark grayish brown channery silt loam with many brownish yellow redoximorphic concentrations and light brownish gray redoximorphic depletions, 20 percent rock fragments

40 to 72 inches, very dark grayish brown channery loam, 25 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- In the lower areas and on flood plains, somewhat poorly drained soils that are subject to occasional flooding
- Spots of well drained Salmon and somewhat poorly drained Roundabout soils along the edge of terraces
- Spots of somewhat excessively drained and well drained Alton soils (cool phase) on the higher parts of the landscape. These soils have fewer shale fragments in the substratum than the Herkimer soil.

- A few small areas where slopes are less than 3 percent
- Some areas of well drained Herkimer soils

Soil Properties

Herkimer soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Strongly acid through neutral in the surface layer and subsoil and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. In some areas wetness caused by the seasonal high water table may be a problem during extended wet periods. A subsurface drainage system can reduce the wetness. On the lower parts of the unit, rare flooding can delay planting and cause minor crop damage in some years. The flooding usually occurs along streams and during extended wet periods or under adverse weather conditions. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Because of the need for good water quality, applications of manure, fertilizer, and pesticides should not coincide with the periods of flooding on this unit. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during periods of wetness or flooding can help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—This unit is very limited as a site for dwellings with basements because of the seasonal high water table. Better suited soils in adjacent areas or in the higher areas of the unit should be considered as alternative sites. Grading the land so that surface water moves away from the dwellings reduces the wetness. Installing drains around footings and foundations and sealing the foundation walls and floors also reduce the wetness. In a few areas of the unit, few or no limitations affect the construction of dwellings.

Septic tank absorption fields.—In some areas wetness caused by the seasonal high water table and moderate permeability in the subsoil and substratum are the main limitations if this unit is used as a site for conventional septic tank absorption fields. Installing diversions that intercept water from the higher adjacent areas helps to keep water out of the absorption field. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems in a few areas of this unit. These regulations should be investigated before a sewage disposal system is installed on the unit. In a few areas of the unit, few or no limitations affect the installation of conventional septic tank absorption fields.

Local roads and streets.—In some areas the potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation in many areas.

The land capability subclass is 2w.

This map unit is a taxadjunct to the Herkimer series because it occurs in frigid areas at an elevation of more than 1,000 feet, in the northern part of the county. Generally, this difference does not significantly affect the use and management of the soil.

818B—Kalurah silt loam, 3 to 8 percent slopes, warm

This very deep, gently sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs in the towns of Floyd, Steuben, Trenton, and Western, mostly at an elevation of less than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this map unit are mainly oblong, elliptical, or irregular in shape. They are as much as 624 acres in size but typically are less than 100 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 18 inches, brown silt loam, 5 percent rock fragments
18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments
34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum
49 to 66 inches, brown loam, 10 percent rock fragments
66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Malone soils (warm phase) in depressions and nearly level areas
- Some narrow areas of poorly drained Lyons soils in depressions and along drainageways
- Well drained Pittsfield soils in the higher and more convex areas
- Spots of somewhat excessively drained Alton and Howard soils along some edges of this unit where the glacial till contacts glacial outwash deposits
- Spots of moderately deep, well drained Manlius and moderately deep, somewhat poorly drained Greene soils where the deposits of glacial till are shallower over shale bedrock, mainly along a few narrow slope breaks or in the more nearly level areas
- A few small areas where slopes are more than 8 percent
- In the town of Western, a few areas where boulders and stones are on the surface

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland, hayland, or pasture. Some areas are used for cultivated crops. A few areas are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

This warm phase is a taxadjunct to the Kalurah series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

818C—Kalurah silt loam, 8 to 15 percent slopes, warm

This very deep, strongly sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs in the towns of Floyd, Steuben, Trenton, and Western, mostly at an elevation of less than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this unit are mainly elongated or irregular in shape. They are as much as 227 acres in size but typically are less than 70 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
9 to 18 inches, brown silt loam, 5 percent rock fragments
18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments
34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum
49 to 66 inches, brown loam, 10 percent rock fragments
66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Somewhat poorly drained Malone soils (warm phase) in depressions and the more nearly level areas of the unit
- Some narrow areas of poorly drained Lyons soils in depressions and along drainageways
- Well drained Pittsfield soils in the higher and more convex areas
- Spots of somewhat excessively drained Alton and Howard soils along some of the edges of the unit where the glacial till contacts glacial outwash deposits
- Spots of moderately deep, well drained Manlius and moderately deep, somewhat poorly drained Greene soils where the deposits of glacial till are shallower over shale bedrock, mainly along a few narrow slope breaks or in the more nearly level areas
- A few small areas where slopes are more than 15 percent
- In the town of Western, a few areas where boulders and stones are on the surface

Soil Properties

Kalurah soil
Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum
Available water capacity (40-inch profile): Moderate or high
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland, hayland, or pasture. Some areas are used for cultivated crops. A few areas are in brushy or weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—Wetness caused by the seasonal high water table, excessive slope, and the slow permeability in the substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Installing the distribution lines along the contour of the slope or in less sloping areas improves performance of the septic system. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent.

Local roads and streets.—The potential for frost action, excessive slope, and wetness caused by the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Building the roads on raised additions of coarse grained subgrade and base material to frost depth, building them along the contour of the slope, and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

This warm phase is a taxadjunct to the Kalurah series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

818D—Kalurah silt loam, 15 to 25 percent slopes, warm

This very deep, moderately steep, moderately well drained soil is on side slopes in the glaciated uplands. It occurs in the in the towns of Floyd, Steuben, Trenton, and Western, mostly at an elevation of less than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Areas of this map unit are mainly long and narrow or oblong. They range from 6 to 119 acres in size and typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil

9 to 18 inches, brown silt loam, 5 percent rock fragments

18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments

34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

49 to 66 inches, brown loam, 10 percent rock fragments

66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Malone soils (warm phase) in depressions and the less sloping areas
- Some narrow areas of poorly drained Lyons soils in depressions and along drainageways
- Well drained Pittsfield soils in the higher and more convex areas
- Spots of somewhat excessively drained Alton and Howard soils along some of the edges of the unit where the glacial till contacts glacial outwash deposits
- Spots of moderately deep, well drained Manlius and moderately deep, somewhat poorly drained Greene soils where the deposits of glacial till are shallower over shale bedrock, mainly along a few narrow slope breaks
- A few small areas where slopes are more than 25 percent
- In the town of Western, a few areas where boulders and stones are on the surface

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. A few areas are used for cultivated crops, hay, or pasture.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. A subsurface drainage system is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and in some areas the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land can lower construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

This warm phase is a taxadjunct to the Kalurah series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

818E—Kalurah silt loam, 25 to 45 percent slopes, warm

This very deep, steep and very steep, moderately well drained soil is on side slopes in the glaciated uplands. It occurs in the towns of Steuben and Western, mostly at an elevation of less than 1,000 feet. The soil formed in loamy, calcareous till derived from shale and limestone. Most areas are irregularly shaped or long and narrow. They range from 14 to 260 acres in size and typically are less than 85 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil

9 to 18 inches, brown silt loam, 5 percent rock fragments

18 to 34 inches, brown loam with common yellowish brown redoximorphic concentrations and a few light brownish gray and grayish brown redoximorphic depletions, 10 percent rock fragments

34 to 49 inches, brown loam with many dark grayish brown redoximorphic depletions and yellowish brown redoximorphic concentrations, 10 percent rock fragments

Substratum

49 to 66 inches, brown loam, 10 percent rock fragments

66 to 72 inches, brown gravelly silt loam, 15 percent rock fragments, strongly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Somewhat poorly drained Malone soils (warm phase) in depressions and the less sloping areas
- Some narrow areas of poorly drained Lyons soils in depressions and along drainageways
- Well drained Pittsfield soils in the higher and more convex areas
- Spots of somewhat excessively drained Alton and Howard soils along some of the edges of the unit where the glacial till contacts glacial outwash deposits
- Spots of moderately deep, well drained Manlius and moderately deep, somewhat poorly drained Greene soils where the deposits of glacial till are shallower over shale bedrock, mainly along a few narrow slope breaks
- In the town of Western, a few areas where boulders and stones are on the surface

Soil Properties

Kalurah soil

Permeability: Moderate in the surface layer, moderately slow in the subsoil, and slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid or neutral in the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are covered with brush or weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are

moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Conservation tillage helps to control erosion during pasture renovation. Applications of fertilizer and weed control can increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of wetness caused by the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered as alternative sites. Erosion is a severe hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope and the slow permeability in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are likely to be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land or routing them around this unit can lower construction and maintenance costs. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

This warm phase is a taxadjunct to the Kalurah series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

819A—Kendaia silt loam, 0 to 3 percent slopes, cool

This very deep, nearly level, somewhat poorly drained soil is in slightly concave areas and on the flatter parts of broad glaciated uplands in the towns of Deerfield, Marcy, and Trenton, mostly at an elevation of more than 1,000 feet. The soil formed in firm, calcareous glacial till. Areas of this map unit are mainly oval, elliptical, or irregular in shape. They range from 5 to 68 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil
9 to 13 inches, brown silt loam, 10 percent rock fragments
13 to 32 inches, dark yellowish brown silt loam with many strong brown redoximorphic concentrations, 10 percent rock fragments

Substratum
32 to 38 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments, slightly effervescent
38 to 72 inches, dark brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 3 acres in size. They are as follows—

- Manheim soils (cool phase) on the same landforms as the Kendaia soil
- Moderately well drained Conesus soils (cool phase) and well drained Lansing soils (cool phase) on the higher parts of the landscape and on the more convex landforms
- Poorly drained Lyons soils (cool phase) in depressions and along drainageways
- Moderately deep, somewhat poorly drained Gretor soils; moderately deep, well drained Mongaup soils; and moderately deep, moderately well drained Ischua soils. These soils are in a few of the higher bedrock-controlled areas.

Soil Properties

Kendaia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum

Available water capacity (40-inch profile): Mainly high but moderate in some areas

Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as pasture or woodland. Some areas are used for cultivated crops or hay. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered when sites for absorption fields are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table and because of the potential for frost action, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This cool phase is a taxadjunct to the Kendaia series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

819B—Kendaia silt loam, 3 to 8 percent slopes, cool

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and in depressions and slightly concave areas on broad glaciated uplands. It occurs in the towns of Deerfield, Marcy, and Trenton, mostly at an elevation of more than 1,000 feet. The soil formed in firm, calcareous glacial till. Areas of this map unit are mainly broad, elliptical, or irregular in shape. They range from 13 to 708 acres in size and typically are less than 161 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, very dark grayish brown silt loam, 10 percent rock fragments

Subsoil

9 to 13 inches, brown silt loam, 10 percent rock fragments

13 to 32 inches, dark yellowish brown silt loam with many strong brown redoximorphic concentrations, 10 percent rock fragments

Substratum

32 to 38 inches, brown, firm gravelly silt loam with common strong brown redoximorphic concentrations, 20 percent rock fragments, slightly effervescent

38 to 72 inches, dark brown, firm gravelly silt loam, 20 percent rock fragments, slightly effervescent

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Manheim soils (cool phase) on the same landforms as the Kendaia soil
- Moderately well drained Conesus soils (cool phase) and well drained Lansing soils (cool phase) on the higher parts of the landscape and on the more convex landforms

- Poorly drained Lyons soils (cool phase) in depressions and along drainageways
- Moderately deep, somewhat poorly drained Gretor soils; moderately deep, well drained Mongaup soils; and moderately deep, moderately well drained Ischua soils. These soils are in a few of the higher bedrock-controlled areas.

Soil Properties

Kendaia soil

Permeability: Moderate in the surface layer and subsoil and slow in the substratum
Available water capacity (40-inch profile): Mainly high but moderate in some areas
Soil reaction: Moderately acid through neutral in the surface layer, slightly acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are in brushy or weedy fields or are used as pasture or woodland. Some areas are used for cultivated crops or hay. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. The better drained adjacent soils should be considered when sites for dwellings are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered when sites for absorption fields are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit because of wetness. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table and because of the potential for frost action, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This cool phase is a taxadjunct to the Kendaia series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

823A—Malone loam, 0 to 3 percent slopes, warm

This very deep, nearly level, somewhat poorly drained soil is in slightly concave areas on broad glaciated uplands and hilltops. In most areas it is in the central and eastern parts of the county, at an elevation of less than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Generally, areas of this map unit are roughly oval or elongated. They are as much as 148 acres in size but typically are less than 42 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments
14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments
18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments

Substratum
38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Pittsfield and moderately well drained Kalurah soils (warm phase), mostly on knolls or in high areas
- Poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of soils that are similar to the Malone soil (warm phase) but do not have free carbonates within 50 inches of the surface
- On the same landforms as the Malone soil, somewhat poorly drained and moderately well drained soils that have dense layers in the subsoil or substratum
- Small areas of soils that are coarser textured than the Malone soil
- A few areas where boulders and stones are on the surface
- A few areas where slopes are more than 3 percent

Soil Properties

Malone soil

Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used as woodland or are covered with brush and weeds. A few areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This warm phase is a taxadjunct to the Malone series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

823B—Malone loam, 3 to 8 percent slopes, warm

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad glaciated uplands. In most areas it is in the central and eastern parts of the county, at an elevation of less than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 1,586 acres in size but typically are less than 120 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil
9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments
14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments
18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments

Substratum
38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- Well drained Pittsfield and moderately well drained Kalurah soils (warm phase), mostly on knolls or in high areas
- Poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of soils that are similar to the Malone soil (warm phase) but do not have free carbonates within 50 inches of the surface
- On the same landforms as the Malone soil, somewhat poorly drained and moderately well drained soils that have dense layers in the subsoil or substratum
- Small areas of soils that are coarser textured than the Malone soil
- A few small areas of moderately deep Greene soils along the periphery of the unit, where the glacial till is shallower over bedrock
- A few small areas where boulders and stones are on the surface

• A few areas where slopes are more than 8 percent

Soil Properties

Malone soil

Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum

Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops. Where artificially drained, this unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3w.

This warm phase is a taxadjunct to the Malone series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

823C—-Malone loam, 8 to 15 percent slopes, warm

This very deep, strongly sloping, somewhat poorly drained soil is on side slopes and hilltops and in slight depressions on broad glaciated uplands. In most areas it is in the central and eastern parts of the county, at an elevation of less than 1,000 feet. The soil formed in loamy glacial till derived mainly from calcareous shale and limestone. Generally, areas of this map unit are roughly oval, elongated, or irregular in shape. They range from 7 to 87 acres in size and typically are less than 33 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 9 inches, dark brown loam, 5 percent rock fragments

Subsoil

9 to 14 inches, light olive brown and dark brown loam, 5 percent rock fragments

14 to 18 inches, olive brown loam with 3 percent grayish brown redoximorphic depletions and 5 percent dark yellowish brown redoximorphic concentrations, 10 percent rock fragments

18 to 38 inches, dark grayish brown loam with 8 percent dark yellowish brown redoximorphic concentrations and 2 percent grayish brown redoximorphic depletions, 11 percent rock fragments

Substratum

38 to 74 inches, light olive brown gravelly loam with 1 percent light olive brown redoximorphic concentrations, 23 percent rock fragments

Included Areas

Included areas make up about 30 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Well drained Pittsfield and moderately well drained Kalurah soils (warm phase), mostly on knolls or in the more convex areas
- Poorly drained Lyons soils in depressions and along drainageways. These soils are commonly identified on the soil map by a symbol for wet spots.
- Some areas of soils that are similar to Malone soil (warm phase) but do not have free carbonates within 50 inches of the surface
- On the same landforms as the Malone soil, somewhat poorly drained and moderately well drained soils that have dense layers in the subsoil or substratum
- Small areas of soils that are coarser textured than the Malone soil
- A few small areas where boulders and stones are on the surface
- A few areas where slopes are more than 15 percent

Soil Properties

Malone soil

Permeability: Moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow through very slow in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Moderately acid or slightly acid in the surface layer, slightly acid or neutral in the upper part of the subsoil, slightly acid through slightly alkaline in the lower part of the subsoil, and neutral through moderately alkaline in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from October through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas are used as woodland or are covered with brush and weeds. Some areas are used for pasture or hay. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of wetness caused by the seasonal high water table and because of the hazard of erosion. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, and stripcropping help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and the content of organic matter.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Better drained soils should be considered, especially when sites for dwellings with basements are selected.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. In some areas it is very limited by restricted permeability in the substratum. Soils that are better drained and more permeable should be considered when sites for conventional systems are selected. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the potential for frost action and because of wetness caused by the seasonal high water table, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

This warm phase is a taxadjunct to the Malone series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

825B—Pinckney silt loam, 3 to 8 percent slopes, warm

This very deep, gently sloping, moderately well drained soil is on broad glaciated uplands. It occurs in the towns of Annsville, Lee, and Western, mostly at an elevation of less than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated or broad and irregular in shape. They are as much as 260 acres in size but typically are less than 231 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil
8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments
25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum
43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- In the higher areas, well drained Chadakoin soils, which do not have a fragipan
- Somewhat poorly drained Venango soils in slight depressions and on footslopes and toeslopes
- Poorly drained Chippewa soils in some depressions and along drainageways
- Spots of somewhat poorly drained Fredon and somewhat excessively drained Alton soils along the edge of the unit, near outwash deposits
- A few small areas where slopes are more than 8 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum

Available water capacity (40-inch profile): Commonly moderate but ranging from low through high

Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops, hay, or pasture. Some areas are used as woodland, and a few areas are in brushy or weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. In some areas planting or harvesting can be delayed during extended wet periods. A system of surface and subsurface drains is needed in the wetter areas. Erosion is a hazard on long slopes and in the steeper areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain the content of organic matter and improve tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during wet periods help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table and restricted permeability in the dense subsoil and substratum somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

This warm phase is a taxadjunct to the Pinckney series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

825C—Pinckney silt loam, 8 to 15 percent slopes, warm

This very deep, strongly sloping, moderately well drained soil is on hilltops and side slopes in the glaciated uplands. It occurs in the towns of Annsville, Lee, and Western, mostly at an elevation of less than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 123 acres in size but typically are less than 58 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil
8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments
25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum
43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- In the higher areas, well drained Chadakoin soils, which do not have a fragipan
- Somewhat poorly drained Venango soils in slight depressions and on footslopes and toeslopes
- Poorly drained Chippewa soils in some depressions and along drainageways
- Spots of somewhat poorly drained Fredon and somewhat excessively drained Alton soils along the edge of the unit, near outwash deposits
- A few small areas where slopes are more than 15 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum
Available water capacity (40-inch profile): Commonly moderate but ranging from low through high
Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum
Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used as pasture. A few areas are used for cultivated crops or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Wetness caused by the seasonal high water table is a problem during extended wet periods in some areas. A system of surface and subsurface drains is needed in the wetter areas. Returning

crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing, proper stocking rates, and restricted grazing during wet periods minimize compaction and help to keep the pasture in good condition. Applications of fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness.

Septic tank absorption fields.—The seasonal high water table, restricted permeability in the dense subsoil and substratum, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Drains installed upslope from the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of frost action and the water table. Designing the roads so that they follow the contour of the slope as much as possible minimizes construction costs.

The land capability subclass is 3e.

This warm phase is a taxadjunct to the Pinckney series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

825D—Pinckney silt loam, 15 to 25 percent slopes, warm

This very deep, moderately steep, moderately well drained soil is on shoulder slopes and side slopes in the glaciated uplands. It occurs in the towns of Lee and Western, mostly at an elevation of less than 1,000 feet. The soil formed in firm glacial till derived from shale and some limestone. A dense fragipan is in the lower part of the subsoil. Areas of this unit are mainly elongated or long and narrow. They are as much as 63 acres in size but typically are less than 56 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark grayish brown silt loam, 2 percent rock fragments

Subsoil
8 to 15 inches, dark yellowish brown silt loam, 2 percent rock fragments
15 to 22 inches, brown silt loam, 5 percent rock fragments
22 to 25 inches, grayish brown channery loam with common yellowish brown redoximorphic concentrations, 15 percent rock fragments

25 to 43 inches, grayish brown and light olive brown, very firm channery loam, 25 percent rock fragments

Substratum

43 to 72 inches, grayish brown, firm channery loam, 30 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- In the more convex areas, well drained Chadakoin soils, which do not have a fragipan
- Somewhat poorly drained Venango soils in slight depressions and on footslopes and toeslopes
- Poorly drained Chippewa soils in some depressions and along drainageways
- Spots of somewhat poorly drained Fredon and somewhat excessively drained Alton soils along the edge of the unit, near outwash deposits
- A few small areas where slopes are more than 25 percent

Soil Properties

Pinckney soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and slow or moderately slow in the substratum

Available water capacity (40-inch profile): Commonly moderate but ranging from low through high

Soil reaction: Very strongly acid through moderately acid in the surface layer and in the upper of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and strongly acid through neutral in the substratum

Depth to a seasonal high water table: 1.5 to 2.0 feet from December through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used as pasture. A few areas are used for cultivated crops or hay.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Wetness can delay planting or harvesting if the amount of rainfall is high during the planting or harvesting period. A subsurface drainage system is needed in the wetter areas. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is moderately suited to pasture. The hazard of erosion and in some areas the seasonal high water table are management concerns. Minimum tillage reduces the hazard of erosion during pasture renovation. Excluding livestock from the pasture during wet periods, rotational grazing, and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and occasional mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Also, it is very limited as a site for dwellings with basements because of the seasonal high water table. The adjacent soils that are less sloping and better drained should be considered in the selection of suitable sites. In some areas grading the land so that surface water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The buildings should be designed so that they conform to the natural slope of the land. Erosion is a hazard during construction. Removal of the vegetative cover should be kept to a minimum, and seeding and temporary erosion-control structures are needed during construction.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and better drained may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Where possible, routing the roads along the contour of the slope or around areas of this unit can reduce construction and maintenance costs. Erosion-control measures are needed in some areas.

The land capability subclass is 4e.

This warm phase is a taxadjunct to the Pinckney series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

831—Tughill mucky silt loam, stony, warm

This very deep, nearly level, very poorly drained soil is in depressions, along small drainageways, on toeslopes, and in concave areas on broad glaciated uplands. In most areas it occurs in the northwestern and west-central parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this map unit are mainly oblong, long and narrow, or irregular in shape. They are as much as 104 acres in size but typically are less than 65 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, black muck
8 to 12 inches, very dark gray cobbly silt loam, 15 percent rock fragments

Subsurface layer
12 to 16 inches, gray cobbly silt loam with a few grayish brown redoximorphic depletions, 20 percent rock fragments

Subsoil
16 to 30 inches, light brownish gray, firm very cobbly silt loam with common brownish yellow redoximorphic concentrations, 35 percent rock fragments

Substratum
30 to 72 inches, gray, firm very cobbly silt loam, 40 percent rock fragments

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Poorly drained Marcy soils (warm phase) and somewhat poorly drained Camroden soils (warm phase)
- In some depressions, Palms soils, which have organic deposits that are 16 to 51 inches thick
- A few spots of well drained Chadakoin soils on the higher parts of the landscape
- Small areas of Fluvaquents on some flood plains
- Soils that are slightly finer textured than the Tughill soil (warm phase) and that have fewer rock fragments
- A few areas of soils that are less acid than the Tughill soil (warm phase)

Soil Properties

Tughill soil

Permeability: Moderately rapid in the organic surface layer, moderate in the mineral surface layer and in the subsurface layer, moderately slow in the subsoil, and slow or very slow in the substratum

Available water capacity (40-inch profile): Moderate or high

Soil reaction: Extremely acid through strongly acid in the surface layer and subsurface layer, extremely acid through slightly acid in the subsoil, and moderately acid through neutral in the substratum

Seasonal high water table: 1.0 foot above to 0.5 foot below the surface from November through June

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit occur as wet woodland or are idle and support water-tolerant brush, trees, and herbaceous vegetation. A few areas are used as pasture.

Cropland.—This unit is generally not suited to cultivated crops because of ponding and prolonged wetness caused by the seasonal high water table. Wetland regulations may prohibit or restrict drainage of this unit and should be investigated before drainage is altered.

Pasture.—This unit is generally unsuited to pasture because of ponding and wetness caused by the seasonal high water table.

Dwellings.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for dwellings. Better suited soils in the higher areas should be selected as sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—Because of ponding and prolonged wetness caused by the seasonal high water table, this unit is very limited as a site for conventional septic tank absorption fields. Better suited soils in the higher areas should be selected because extensive alterations would be required to overcome these limitations. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the seasonal high water table, the potential for frost action, and ponding, this unit is very limited as a site for local roads and streets. The roads should be constructed on better suited soils in the higher areas. In a few areas additions of considerable amounts of coarse grained subgrade and base material can reduce the wetness and the potential for frost action. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage on this unit. These regulations should be investigated before local roads and streets are constructed on the unit.

The land capability subclass is 5w.

This warm phase is a taxadjunct to the Tughill series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

833A—Westbury silt loam, 0 to 3 percent slopes, stony, warm

This very deep, nearly level, somewhat poorly drained soil is in flat areas, depressions, and slightly concave areas on broad glaciated uplands. It occurs in the towns of Annsville, Camden, Florence, and Vienna, mostly at an elevation of less than 1,000 feet. The soil formed in glacial till derived from sandstone, siltstone, and shale. A dense fragipan is in the lower part of the subsoil. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 125 acres in size but typically are less than 55 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves and twigs
1 to 3 inches, black, highly decomposed organic material
3 to 8 inches, very dark brown silt loam, 10 percent rock fragments

Subsoil

8 to 18 inches, dark yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 10 percent rock fragments
18 to 20 inches, brown fine sandy loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments
20 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments

Substratum

40 to 72 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the higher parts of the landscape, well drained Worth soils (warm phase) and moderately well drained Empeyville soils (warm phase)
- Poorly drained Chippewa soils in depressions and along drainageways
- In the deeper depressions, a few spots of Palms soils, which have organic deposits that are 16 to 51 inches thick
- A few areas of soils that are similar to the Westbury soil but have more silt and very fine sand in the subsurface layer
- A few areas where slopes are more than 3 percent

Soil Properties

Westbury soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or very slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer and the upper part of the subsoil and very strongly acid through moderately acid in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay or are covered with brush and weeds. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the potential for frost action, and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

This warm phase is a taxadjunct to the Westbury series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

833B—Westbury silt loam, 3 to 8 percent slopes, stony, warm

This very deep, gently sloping, somewhat poorly drained soil is on footslopes and toeslopes and in slightly concave areas on broad glaciated uplands. It occurs in the towns of Annsville, Camden, Florence, and Vienna, mostly at an elevation of less than 1,000 feet. The soil formed in firm glacial till derived from sandstone, siltstone, and shale. A dense fragipan is in the lower part of the subsoil. Stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 866 acres in size but typically are less than 165 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 1 inch, slightly decomposed leaves and twigs
1 to 3 inches, black, highly decomposed organic material
3 to 8 inches, very dark brown silt loam, 10 percent rock fragments

Subsoil

8 to 18 inches, dark yellowish brown very fine sandy loam with common yellowish brown redoximorphic concentrations and a few grayish brown redoximorphic depletions, 10 percent rock fragments
18 to 20 inches, brown fine sandy loam with common yellowish brown redoximorphic concentrations, 10 percent rock fragments
20 to 40 inches, yellowish brown, firm gravelly fine sandy loam, 20 percent rock fragments

Substratum

40 to 72 inches, yellowish brown gravelly very fine sandy loam, 20 percent rock fragments

Included Areas

Included areas make up about 10 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the higher parts of the landscape, well drained Worth soils (warm phase) and moderately well drained Empeyville soils (warm phase)
- Poorly drained Chippewa soils in depressions and along drainageways

- In the deeper depressions, a few spots of Palms soils, which have organic deposits that are 16 to 51 inches thick
- A few areas of soils that are similar to the Westbury soil but have more silt and very fine sand in the subsurface layer
- A few areas where slopes are more than 8 percent

Soil Properties

Westbury soil

Permeability: Moderate in the surface layer and the upper part of the subsoil and slow or very slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly low but ranging from very low through moderate
Soil reaction: Extremely acid through moderately acid in the surface layer and the upper part of the subsoil and very strongly acid through moderately acid in the lower part of the subsoil and in the substratum
Depth to a seasonal high water table: 0.5 foot to 1.5 feet from November through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay or are covered with brush and weeds. A few areas are used for cultivated crops.

Cropland.—This unit is only moderately suited to cultivated crops because of wetness caused by the seasonal high water table. Wetness often delays planting or harvesting when the amount of rainfall is high during the planting or harvesting period. In some areas a system of surface and subsurface drains reduces the wetness. In some of the wettest areas, wetland regulations may prohibit or restrict alteration of drainage on this unit. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment.

Pasture.—This unit generally is suited to pasture. Wetness caused by the seasonal high water table commonly is a limitation during spring or following periods of heavy rainfall. Exclusion of livestock from the pasture during wet periods, rotational grazing, and proper stocking rates minimize compaction and help to keep the pasture in good condition. Applications of lime and fertilizer and yearly mowing and other measures that help to control weeds and brush increase forage yields.

Dwellings.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for dwellings. Better drained soils should be considered when suitable sites are selected. Grading the land so that water moves away from the dwellings and installing interceptor drains that divert water from the higher areas reduce the wetness. Installing drains around footings and foundations and adequately sealing the foundation walls also reduce the wetness. Because of the dense layers, excavating for foundations and basements is time consuming and expensive.

Septic tank absorption fields.—Because of wetness caused by the seasonal high water table and because of the dense layers in the lower part of the subsoil and in the substratum, this unit is very limited as a site for conventional septic tank absorption fields. Soils that are better drained and more permeable should be considered as alternative sites. Curtain drains installed around the absorption field and diversions that intercept runoff from the higher areas reduce the wetness. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of wetness caused by the seasonal high water table, the potential for frost action, and the depth to dense soil material, this unit is very limited as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the potential for frost damage. In some of the wettest included areas in this unit, wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. Removal of original soil to be used as new subgrade material may be more difficult and costly in areas of this unit than in other areas because of the dense subsoil and a perched seasonal high water table.

The land capability subclass is 3w.

This warm phase is a taxadjunct to the Westbury series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

838B—Worth loam, 3 to 8 percent slopes, stony, warm

This very deep, gently sloping, well drained soil is on hilltops and side slopes in the glaciated uplands. In most areas it occurs in the western and northwestern parts of the county, at an elevation of less than 1,000 feet. The soil formed in till derived mainly from sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this map unit are mainly oblong, elongated, roughly oval, or irregular in shape. They are as much as 491 acres in size but typically are less than 115 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil

8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum

59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on footslopes, moderately well drained Empeyville soils (warm phase) and somewhat poorly drained Westbury soils (warm phase)
- Elongated areas of poorly drained Chippewa soils along drainageways and in small depressions. In some areas these soils are identified on the soil map by a symbol for wet spots.
- On the same landscape as the Worth soil, some areas of Chadakoin soils, which do not have a fragipan in the subsoil

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high

Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum

Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture, hay, or cultivated crops. A few areas are covered with brush and weeds. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Surface stones may interfere with cultivation in many areas, but tillage is possible. The stones may cause excessive wear of equipment or damage to the equipment. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements and is somewhat limited as a site for dwellings without basements. Grading the land so that surface water moves away from the dwellings and installing interceptor drains reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness.

Septic tank absorption fields.—The slow permeability in the dense subsoil and substratum and the seasonal high water table somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 2e.

This warm phase is a taxadjunct to the Worth series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

838C—Worth loam, 8 to 15 percent slopes, stony, warm

This very deep, strongly sloping, well drained soil is on hilltops and side slopes in the glaciated uplands. In most areas it occurs in the western and northwestern parts of the county, at an elevation of less than 1,000 feet. The soil formed in till derived mainly from sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 395 acres in size but typically are less than 140 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil
8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum
59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the lower parts of the landscape and on footslopes, moderately well drained Empeyville soils (warm phase) and somewhat poorly drained Westbury soils (warm phase)
- Elongated areas of poorly drained Chippewa soils along drainageways and in small depressions. In some areas these soils are identified on the soil map by a symbol for wet spots.
- On the same landscape as the Worth soil, some areas of Chadakoin soils, which do not have a fragipan in the subsoil

Soil Properties

Worth soil
Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for cultivated crops, hay, or pasture. A few areas are covered with brush and weeds.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. The surface stones do not interfere with cultivation in the areas where they occur, but they may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, crop rotations, and cover crops reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is well suited to pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields.

Dwellings.—Because of the seasonal high water table, this unit is very limited as a site for dwellings with basements. It is somewhat limited as a site for dwellings without basements because of the seasonal high water table and excessive slope. Grading the land so that surface water moves away from the dwellings and installing interceptor drains reduce the wetness. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors also reduce the wetness. The dwellings should be designed so that they conform to the natural slope of the land.

Septic tank absorption fields.—The slow permeability in the dense subsoil and substratum, the seasonal high water table, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Enlarging the absorption field or the trenches below the distribution lines increases the rate at which the soil absorbs effluent. The distribution lines should be installed along the contour of the slope. State and local health codes may affect the design of conventional systems. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action, excessive slope, and the seasonal high water table somewhat limit the use of this unit as a site for local roads and streets. Building the roads on raised additions of coarse grained subgrade and base material to frost depth, building them along the contour of the slope, and installing a drainage system can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

This warm phase is a taxadjunct to the Worth series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

838D—Worth loam, 15 to 25 percent slopes, stony, warm

This very deep, moderately steep, well drained soil is on side slopes in the glaciated uplands. In most areas it occurs in the western and northwestern parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated, long and narrow, or irregular in shape. They are as much as 137 acres in size but typically are less than 40 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil

8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum

59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on toeslopes and footslopes, moderately well drained Empeyville soils (warm phase) and somewhat poorly drained Westbury soils (warm phase)
- A few elongated areas of poorly drained Chippewa soils along drainageways and in small depressions
- On the same landscape as the Worth soil, some small areas of Chadakoin soils, which do not have a fragipan in the subsoil

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. Some areas are used for pasture or hay. A few areas are used for cultivated crops or are covered with brush and weeds.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. The stones on the surface may cause excessive wear of equipment or damage to the equipment. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that limits the amount of time that row crops are grown reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. In some areas minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In many areas it is very limited as a site for dwellings with basements because of the seasonal high water table. The adjacent soils that are less sloping may be better suited to dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Installing drains around footings and foundations, backfilling with sand and gravel, and sealing the foundation walls and floors reduce the wetness. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The less sloping adjacent soils may be better suited to this use. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

This warm phase is a taxadjunct to the Worth series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

838E—Worth loam, 25 to 45 percent slopes, stony, warm

This very deep, steep and very steep, well drained soil is on shoulder slopes, side slopes, and valley walls in the glaciated uplands. In most areas it occurs in the western and northwestern parts of the county, at an elevation of less than 1,000 feet. The soil formed in glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan. Large stones cover 0.01 to 0.10 percent of the surface. Areas of this unit are mainly elongated or long and narrow. They range from 5 to 49 acres in size and typically are less than 34 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 8 inches, dark brown loam, 10 percent rock fragments

Subsoil

8 to 18 inches, strong brown gravelly fine sandy loam, 20 percent rock fragments
18 to 22 inches, yellowish brown gravelly fine sandy loam, 15 percent rock fragments
22 to 27 inches, pinkish gray, firm gravelly fine sandy loam, 25 percent rock fragments
27 to 41 inches, brown, firm channery fine sandy loam, 30 percent rock fragments
41 to 59 inches, yellowish brown, firm channery fine sandy loam, 30 percent rock fragments

Substratum

59 to 72 inches, brown, firm very cobbly coarse sandy loam, 50 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the lower parts of the landscape and on toeslopes and footslopes, moderately well drained Empeyville soils (warm phase) and somewhat poorly drained Westbury soils (warm phase)
- A few elongated areas of poorly drained Chippewa soils along drainageways and in small depressions
- On the same landscape as the Worth soil, some small areas of Chadakoin soils, which do not have a fragipan in the subsoil

Soil Properties

Worth soil

Permeability: Moderate in the surface layer and in the upper part of the subsoil and slow in the lower part of the subsoil and in the substratum
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through high
Soil reaction: Extremely acid through strongly acid in the surface layer, very strongly acid through moderately acid in the upper part of the subsoil, strongly acid through slightly acid in the lower part of the subsoil, and moderately acid through moderately alkaline in the substratum
Depth to a seasonal high water table: 2.0 to 3.0 feet from February through May
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland. A few areas are covered with brush or weeds.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. The stones on the surface may cause excessive wear of equipment or damage to the equipment. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are

moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. Extensive landscaping and grading are needed because of the slope. The adjacent soils that are less sloping may be better suited to this use.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and more permeable are better suited to this use. Laterally moving effluent may seep out at the surface in downslope areas. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. The roads should be designed so that they conform to the natural slope of the land. Grading and filling are needed in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

This warm phase is a taxadjunct to the Worth series because the soil temperature is slightly above the frigid range. Generally, this difference does not significantly affect the use and management of the soil.

842B—Farmington silt loam, 2 to 8 percent slopes, cool

This shallow, gently sloping, well drained soil is on broad bedrock-controlled ridges and benches on uplands in the northern and eastern parts of the county, at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till derived from limestone and is underlain by limestone bedrock, which is fractured in some areas. Areas of this unit are mainly elongated, roughly oval, or irregular in shape. They are as much as 64 acres in size but typically are less than 22 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
4 to 8 inches, dark yellowish brown silt loam, 5 percent rock fragments
8 to 14 inches, brown silt loam, 10 percent rock fragments

Bedrock
14+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- On the same landform as the Farmington soil, moderately deep Galway soils (cool phase)
- Small areas of very deep Pyrities soils along the edge of the unit

- Small areas of soils that are underlain by sandstone bedrock and are more acid than the Farmington soil
- Wetter soils and seep spots. Some of these areas are identified on the soil map by a symbol for wet spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of soils that are underlain by hard shale bedrock
- Small areas of Farmington soils that have slopes of more than 8 percent

Soil Properties

Farmington soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low or low
Soil reaction: Strongly acid through neutral the surface layer and moderately acid through slightly alkaline in the subsoil
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used as woodland or pasture. Some areas are used for cultivated crops or hay. A few areas are idle and are covered with brush and weeds.

Cropland.—This unit is moderately suited to cultivated crops. The shallow depth to bedrock and the associated restricted rooting depth and very low or low available water capacity are the main limitations. In some areas the content of rock fragments and occasional rock outcrops are additional management concerns. The best suited crops and crop varieties are those that mature early in the growing season, when more moisture is available, and those that are shallow rooted and can withstand droughty conditions. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county. Contact with rock fragments and with bedrock can cause excessive wear of farm machinery.

Pasture.—This unit is suited to pasture, but it is limited by the shallow depth to bedrock and the droughtiness caused by the very low or low available water capacity. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Rotational grazing, proper stocking rates, and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control, applications of fertilizer, and in a few areas applications of lime increase forage yields.

Dwellings.—Because of the shallow depth to bedrock, this unit is very limited as a site for dwellings. Most of the bedrock is hard limestone, which cannot be ripped easily. Construction may be more feasible on the deeper soils nearby. Where dwellings are constructed on this unit, those without basements require less extensive site alteration and can be built above the bedrock in some areas. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock, this unit is very limited as a site for conventional septic tank absorption fields. Inadequate filtration and the contamination of ground water can occur. In some areas adding fill material can minimize these limitations. In many areas specially designed onsite sewage disposal systems are needed to overcome the shallow depth and to prevent the contamination of ground water. The bedrock may have fractures and solution cavities. Lansing and other adjacent soils that are very deep to bedrock are limited by slow permeability, but they are better suited to septic systems than the Farmington soil. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of this limitation in some areas.

The land capability subclass is 3s.

This cool phase is a taxadjunct to the Farmington series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

843D—Farmington-Rock outcrop complex, 15 to 25 percent slopes, cool

This unit consists of a shallow, moderately steep, well drained Farmington soil and numerous outcrops of bedrock. It is on bedrock-controlled ridges and benches on uplands in the eastern part of the county, at an elevation of more than 1,000 feet. The Farmington soil formed in a thin mantle of glacial till derived from limestone and is underlain by limestone bedrock, which is fractured in some areas. Areas of this map unit are elongated. They are as much as 21 acres in size. The unit is about 45 percent Farmington soil, 35 percent rock outcrop, and 20 percent included soils. The Farmington soil and rock outcrop occur in such an intricate pattern that separating them in mapping was not practical.

The typical sequence, depth, and composition of the layers of the Farmington soil are as follows—

Surface layer
0 to 4 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
4 to 8 inches, dark yellowish brown silt loam, 5 percent rock fragments
8 to 14 inches, brown silt loam, 10 percent rock fragments

Bedrock
14+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 20 percent of the map unit. They are as much as 5 acres in size. They are as follows—
- On the same landform as the Farmington soil, moderately deep Galway soils (cool phase)
- Small areas of very deep Pyrities soils along the edge of the unit
- A narrow area of poorly drained Fluvaquents along a drainageway
- Some areas of soils that are underlain by hard shale bedrock

Soil Properties

Farmington soil
Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Very low or low

Soil reaction: Strongly acid through neutral the surface layer and moderately acid through slightly alkaline in the subsoil
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 10 to 20 inches

Use and Management

Most areas of this map unit are used as woodland or are idle and are covered with brush and weeds. A few areas are used for pasture or hay.

Cropland.—This unit is generally not suited to cultivated crops because of the rock outcrops, the shallow depth to bedrock, and the hazard of erosion caused by moderately steep slopes. The very low or low available water capacity also is a limitation. The use of equipment commonly is limited because of the rock outcrops, depth to bedrock, and moderately steep slopes. Because of excessive slope and the rock outcrops, operating farm equipment is hazardous.

Pasture.—This unit is generally not suited to pasture because of the rock outcrops, the shallow depth to bedrock, and the moderately steep slopes. The very low or low available water capacity also is a limitation. The rock outcrops and moderately steep slopes limit the use of equipment. A fencing system that requires shallow placement of posts or greater distances between the posts is desirable. Droughtiness is often a problem during extended dry periods. The depth to bedrock restricts the root growth of legumes, which are susceptible to damage or death from frost heaving. Rotational grazing and exclusion of livestock from the pasture during droughty periods help to keep the pasture in good condition. Weed control increases forage yields. Where the use of equipment is practical, applications of fertilizer also can increase forage yields.

Dwellings.—Because of the shallow depth to bedrock, the numerous rock outcrops, and the moderately steep slopes, this unit is very limited as a site for dwellings. The adjacent soils that are deeper to bedrock and less sloping are better sites for dwellings. Most of the bedrock is hard limestone, which cannot be ripped easily. Construction may be more feasible on the deeper soils nearby. Where dwellings are constructed on this unit, those without basements require less extensive site alteration and can be built above the bedrock in some areas. Also, the sites for these dwellings can be landscaped with additional fill as needed.

Septic tank absorption fields.—Because of the shallow depth to bedrock, the numerous rock outcrops, and the moderately steep slopes, this unit is very limited as a site for conventional septic tank absorption fields. Inadequate filtration and the contamination of ground water can occur. In some areas adding fill material can minimize these limitations. In many areas specially designed onsite sewage disposal systems are needed to overcome the shallow depth and to prevent the contamination of ground water. The bedrock may have fractures and solution cavities. The very deep, less sloping adjacent soils, such as Lansing soils, are better suited to septic systems than the Farmington soil. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of the shallow depth to bedrock and numerous rock outcrops, this unit is very limited as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads along the contour of the slope and on raised additions of coarse grained subgrade and base fill material can reduce the adverse effects of these limitations in some areas.

Land capability classification: Farmington soil—6s; Rock outcrop—8.

The cool phase of the Farmington soil in this is a taxadjunct to the Farmington series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

845A—Galway silt loam, 0 to 3 percent slopes, cool

This moderately deep, nearly level, well drained soil is on flat hilltops on glaciated, bedrock-controlled uplands. It is in the town of Boonville, mostly at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Areas of this map unit are mainly irregular in shape. They range from 7 to 119 acres in size and typically are less than 28 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock
26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Shallow Farmington soils (cool phase) in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils (cool phase), in which the subsoil averages more than 35 percent clay
- A few small areas of soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils (cool phase). In these areas the glacial till is more than 60 inches deep over limestone bedrock.
- In small depressions and on some footslopes, small areas of soils that are wetter than the Galway soil. These soils are commonly identified on the soil map by a symbol for wet spots, particularly seepage spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 3 percent

Soil Properties

Galway soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are covered with brush or weeds. A few areas are used for cultivated crops or woodland. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Droughtiness may be a problem during extended dry periods in some areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing for weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The very deep adjacent soils may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 2s.

This cool phase is a taxadjunct to the Galway series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

845B—Galway silt loam, 3 to 8 percent slopes, cool

This moderately deep, gently sloping, well drained soil is on hilltops on broad bedrock-controlled benches in the uplands. It is in the towns of Boonville and Trenton, mostly at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Areas of this unit are mainly elongated or irregular in shape. They range from 6 to 103 acres in size and typically are less than 53 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock
26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Shallow Farmington soils (cool phase) in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils (cool phase), in which the subsoil averages more than 35 percent clay
- A few small areas of soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils (cool phase). In these areas the glacial till is more than 60 inches deep over limestone bedrock.
- In small depressions and on some footslopes, small areas of soils that are wetter than the Galway soil. These soils are commonly identified on the soil map by a symbol for wet spots, particularly seepage spots.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 8 percent

Soil Properties

Galway soil

Permeability: Moderate throughout the mineral soil
Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate
Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum
Seasonal high water table: None above the bedrock
Flooding: None
Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used for hay or pasture. Some areas are used as woodland or are covered with weeds and brush. A few areas are used for cultivated crops. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to most of the cultivated crops grown in the county. Droughtiness may be a problem during extended dry periods in some areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and yearly mowing for weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock and the moderate permeability somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The very deep adjacent soils may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of these limitations in some areas.

The land capability subclass is 2s.

This cool phase is a taxadjunct to the Galway series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

845C—Galway silt loam, 8 to 15 percent slopes, cool

This moderately deep, strongly sloping, well drained soil is on hillsides on glaciated, bedrock-controlled uplands. It is in the town of Trenton, mostly at an elevation of more than 1,000 feet. The soil formed in a thin mantle of glacial till derived mainly from limestone and is underlain by limestone bedrock, which is fractured in some areas. The bedrock has layers of calcareous sandstone or shale in some areas. Generally, areas of this map unit are roughly oval or elongated. They range from 9 to 53 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 5 inches, dark brown silt loam, 5 percent rock fragments
5 to 8 inches, very dark grayish brown silt loam, 5 percent rock fragments

Subsoil
8 to 17 inches, dark yellowish brown silt loam, 10 percent rock fragments
17 to 26 inches, brown silt loam, 10 percent rock fragments, slightly effervescent directly above the bedrock

Bedrock

26+ inches, gray, hard limestone bedrock

Included Areas

Included areas make up about 25 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Shallow Farmington soils (cool phase) in areas where the glacial till is less than 20 inches thick
- Spots of Lairdsville soils (cool phase) in areas where the subsoil averages more than 35 percent clay
- In a few small areas, soils that are 40 to 60 inches deep over limestone bedrock
- Small areas of very deep Honeoye, Lansing, Nellis, Conesus, and Cazenovia soils (cool phase). In these areas the glacial till is more than 60 inches deep over the limestone bedrock.
- In a few spots along the edge of ridges, small ledges of rock outcrop
- Some areas of a moderately well drained Galway soil
- Small areas of Galway soils that have slopes of more than 15 percent

Soil Properties

Galway soil

Permeability: Moderate throughout the mineral soil

Available water capacity (40-inch profile): Mainly moderate but ranging from very low through moderate

Soil reaction: Moderately acid through neutral in the surface layer, moderately acid through slightly alkaline in the subsoil, and slightly alkaline or moderately alkaline in the substratum

Seasonal high water table: None above the bedrock

Flooding: None

Depth to bedrock: 20 to 40 inches

Use and Management

Most areas of this map unit are used as woodland or are in brushy or weedy fields. Some areas are used for pasture or hay.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Operation of tillage equipment is difficult in the included areas of more shallow soils or of rock outcrop. A conservation tillage system that leaves crop residue on surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Droughtiness may be a problem during dry periods in areas where the bedrock is close to the surface. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil. Crops and crop varieties that mature early in the growing season are desirable because the number of frost-free days in areas of this unit is fewer than the average for the county.

Pasture.—This unit is well suited to pasture. Overgrazing or grazing when the soil is wet decreases the quantity and quality of forage and generally increases compaction and runoff. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and weed control increase forage yields.

Dwellings.—Because of the depth to bedrock, this unit is very limited as a site for dwellings with basements. It is better suited to dwellings without basements, which require less excavation of the bedrock. Constructing the dwellings above the bedrock and landscaping with additional fill as needed help to overcome this limitation in some areas.

Septic tank absorption fields.—The depth to bedrock, the moderate permeability, and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. Inadequate filtration and the subsequent contamination of ground water can occur on this unit. The adjacent soils that are very deep and less sloping may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems in some areas of this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The depth to bedrock, the potential for frost action, and excessive slope somewhat limit the use of this unit as a site for local roads and streets. Planning road locations and grades that avoid the need for the removal of rock and constructing the roads on raised additions of coarse grained subgrade and base material can reduce the adverse effects of frost action and the depth to bedrock in some areas. Designing the roads along the contour of the slope can reduce construction and maintenance costs.

The land capability subclass is 3e.

This cool phase is a taxadjunct to the Galway series because the soil temperature is slightly below the mesic range. Generally, this difference does not significantly affect the use and management of the soil.

858A—Chenango gravelly fine sandy loam, 0 to 3 percent slopes, red substratum

This very deep, nearly level, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames in the northwestern part of the county. It occurs mainly at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 373 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly fine sandy loam, 20 percent rock fragments

Subsoil

7 to 20 inches, brown gravelly fine sandy loam, 25 percent rock fragments

20 to 33 inches, brown very gravelly sandy loam, 40 percent rock fragments

Substratum

33 to 72 inches, reddish brown, grayish brown, and brown extremely gravelly sand, 65 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Many areas where the parent material in the substratum is brown
- On the same landforms as the Chenango soil, excessively drained Windsor soils, which have a higher content of sand than the Chenango soil and have fewer pebbles

- Some areas of Knickerbocker soils, which have fewer rock fragments than the Chenango soil
- Some areas of Alton soils, which are higher in content of lime than the Chenango soil
- A few areas of well drained Worth soils (warm phase), which have fewer pebbles than the Chenango soil and have a substratum of dense till
- Small areas of well drained Chadakoin soils on glacial till uplands

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but low in some areas

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. A few areas are in brushy and weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—The rapid permeability in the substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas the adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

This Chenango soil commonly has redder colors than is allowed in the Chenango series. This difference is probably related to the color of the parent material or to incipient spodic development. Generally, the redder colors do not significantly affect the use and management of the soil.

858B—Chenango gravelly fine sandy loam, 3 to 8 percent slopes, red substratum

This very deep, gently sloping, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames in the northwestern part of the county. It occurs mainly at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 403 acres in size but typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly fine sandy loam, 20 percent rock fragments

Subsoil

7 to 20 inches, brown gravelly fine sandy loam, 25 percent rock fragments
20 to 33 inches, brown very gravelly sandy loam, 40 percent rock fragments

Substratum

33 to 72 inches, reddish brown, grayish brown, and brown extremely gravelly sand, 65 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Many areas where the parent material in the substratum is brown
- On the same landforms as the Chenango soil, excessively drained Windsor soils, which have a higher content of sand than the Chenango soil and have fewer pebbles
- Some areas of Knickerbocker soils, which have fewer rock fragments than the Chenango soil
- Some areas of Alton soils, which are higher in content of lime than the Chenango soil
- A few areas of well drained Worth soils (warm phase), which have fewer pebbles than the Chenango soil and have a substratum of dense till
- Small areas of well drained Chadakoin soils on glacial till uplands

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Mainly moderate but low in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet

Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for cultivated crops or hay. Some areas are used as pasture or woodland. A few areas are in brushy and weedy fields. This unit ranks among the soils in the county that meet the requirements for prime farmland.

Cropland.—This unit is well suited to cultivated crops. Cultivated areas are used for beans, potatoes, alfalfa, oats, corn, or hay. When managed properly, the soil can be cultivated intensively. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. In some areas a high content of gravel in the surface layer may interfere with certain tillage operations and may cause excessive wear of farm machinery. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of fertilizer and lime and weed control increase forage yields.

Dwellings.—Few or no limitations affect the construction of dwellings on this unit.

Septic tank absorption fields.—The rapid permeability in the substratum somewhat limits the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas the adjacent soils that have a better filtering capacity should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—The potential for frost action somewhat limits the use of this unit as a site for local roads and streets. Constructing the roads on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of this limitation.

The land capability subclass is 2s.

This Chenango soil commonly has redder colors than is allowed in the Chenango series. This difference is probably related to the color of the parent material or to incipient spodic development. Generally, the redder colors do not significantly affect the use and management of the soil.

858C—Chenango gravelly fine sandy loam, 8 to 15 percent slopes, red substratum

This very deep, strongly sloping, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames in the northwestern part of the county. It occurs mainly at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this map unit are mainly oblong, elongated, or irregular in shape. They are as much as 180 acres in size but typically are less than 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly fine sandy loam, 20 percent rock fragments

Subsoil

7 to 20 inches, brown gravelly fine sandy loam, 25 percent rock fragments

20 to 33 inches, brown very gravelly sandy loam, 40 percent rock fragments

Substratum

33 to 72 inches, reddish brown, grayish brown, and brown extremely gravelly sand, 65 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Many areas where the parent material in the substratum is brown
- On the same landforms as the Chenango soil, excessively drained Windsor soils, which have a higher content of sand than the Chenango soil and have fewer pebbles
- Some areas of Knickerbocker soils, which have fewer rock fragments than the Chenango soil
- Some areas of Alton soils, which are higher in content of lime than the Chenango soil
- A few areas of well drained Worth soils (warm phase), which have fewer pebbles than the Chenango soil and have a substratum of dense till
- Small areas of well drained Chadakoin soils on glacial till uplands

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but low in some areas

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used for cultivated crops. Other areas are used as woodland or are in brushy and weedy fields.

Cropland.—This unit is only moderately suited to cultivated crops because of strong slopes and the hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and crop rotations help to control erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is well suited to pasture. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Excessive slope somewhat limits the use of this unit as a site for dwellings. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—The rapid permeability in the substratum and excessive slope somewhat limit the use of this unit as a site for conventional septic tank absorption fields. A poor filtering capacity can result in the contamination of ground water and of nearby water bodies. In some areas the adjacent soils that have a better filtering capacity and are less sloping should be considered as alternative sites. In a few areas specially designed systems may be needed to prevent the contamination of ground water. State and local health codes may prohibit the installation of conventional systems on this unit. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Excessive slope and the potential for frost action somewhat limit the use of this unit as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land and constructing on raised additions of coarse grained subgrade and base material to frost depth can reduce the adverse effects of these limitations.

The land capability subclass is 3e.

This Chenango soil commonly has redder colors than is allowed in the Chenango series. This difference is probably related to the color of the parent material or to incipient spodic development. Generally, the redder colors do not significantly affect the use and management of the soil.

858D—Chenango gravelly fine sandy loam, 15 to 25 percent slopes, red substratum

This very deep, moderately steep, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames in the northwestern part of the county. It occurs mainly at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this unit are mainly elongated, oblong, or irregular in shape. They are as much as 160 acres in size but typically are less than 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly fine sandy loam, 20 percent rock fragments

Subsoil

7 to 20 inches, brown gravelly fine sandy loam, 25 percent rock fragments

20 to 33 inches, brown very gravelly sandy loam, 40 percent rock fragments

Substratum

33 to 72 inches, reddish brown, grayish brown, and brown extremely gravelly sand, 65 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Many areas where the subsoil or substratum is brown
- On the same landforms as the Chenango soil, excessively drained Windsor soils, which have a higher content of sand than the Chenango soil and have fewer pebbles
- Some areas of Knickerbocker soils, which have fewer rock fragments than the Chenango soil
- Some areas of Alton and Howard soils, which are higher in content of lime than the Chenango soil
- A few areas of well drained Worth soils (warm phase), which have fewer pebbles than the Chenango soil and have a substratum of dense till
- Small areas of well drained Chadakoin soils on some glacial till uplands

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum

Available water capacity (40-inch profile): Mainly moderate but low in some areas

Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum

Depth to a seasonal high water table: More than 6 feet

Flooding: None

Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used for pasture or hay. Some areas are used as woodland or are in brushy and weedy fields. A few areas are used for cultivated crops.

Cropland.—This unit is poorly suited to cultivated crops because of moderately steep slopes and a severe hazard of erosion. Droughtiness is a problem during extended dry periods in some areas. A high content of gravel in some areas may interfere with certain tillage operations. A conservation tillage system that leaves crop residue on the surface after the crop is planted, contour farming, stripcropping, cover crops, and a crop rotation that includes several years of hay or small grain reduce the hazard of erosion. Returning crop residue to the soil and regularly adding other organic material help to maintain tilth and increase the available water capacity of the soil.

Pasture.—This unit is only moderately suited to pasture because of the hazard of erosion. Droughtiness may be a problem during extended dry periods or in the latter part of the growing season. Drought-tolerant plants should be grown in some areas. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields. Minimum tillage helps to control erosion during pasture renovation.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. The adjacent soils that are less sloping may be better suited to this use. The dwellings should be designed so that they conform to the natural slope of the land. Erosion is a moderate hazard during construction. Removal of the vegetative cover should be kept to a minimum, and temporary erosion-control measures are needed.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. In some areas a poor filtering capacity may result in the contamination of ground water and of nearby water bodies. In these areas specially designed systems probably are needed to prevent the contamination of ground water. The adjacent soils that have a better filtering capacity and are less sloping may be better suited to conventional systems. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. Designing the roads so that they conform to the natural slope of the land, routing the roads around this unit, and grading and filling reduce the adverse effects of this limitation. Erosion-control structures and seeding are needed is disturbed areas, such as banks and ditches.

The land capability subclass is 4e.

This Chenango soil commonly has redder colors than is allowed in the Chenango series. This difference is probably related to the color of the parent material or to incipient spodic development. Generally, the redder colors do not significantly affect the use and management of the soil.

858E—Chenango gravelly fine sandy loam, 25 to 45 percent slopes, red substratum

This very deep, steep and very steep, somewhat excessively drained soil is on glacial outwash plains, terraces, eskers, moraines, and kames in the northwestern part of the county. It occurs mainly at an elevation of less than 1,000 feet. The soil formed in water-sorted gravelly outwash. Areas of this map unit are mainly long and narrow, oblong, or irregular in shape. They are as much as 344 acres in size but typically are less than 35 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer

0 to 7 inches, dark grayish brown gravelly fine sandy loam, 20 percent rock fragments

Subsoil

7 to 20 inches, brown gravelly fine sandy loam, 25 percent rock fragments

20 to 33 inches, brown very gravelly sandy loam, 40 percent rock fragments

Substratum

33 to 72 inches, reddish brown, grayish brown, and brown extremely gravelly sand, 65 percent rock fragments

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 5 acres in size. They are as follows—

- Many areas where the subsoil or substratum is brown

- On the same landforms as the Chenango soil, excessively drained Windsor soils, which have a higher content of sand than the Chenango soil and have fewer pebbles
- Some areas of Knickerbocker soils, which have fewer rock fragments than the Chenango soil
- Some areas of Alton and Howard soils, which are higher in content of lime than the Chenango soil
- A few areas of well drained Worth soils (warm phase), which have fewer pebbles than the Chenango soil and have a substratum of dense till
- Small areas of well drained Chadakoin soils on some glacial till uplands

Soil Properties

Chenango soil

Permeability: Moderate or moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity (40-inch profile): Mainly moderate but low in some areas
Soil reaction: Very strongly acid through moderately acid in the surface layer and subsoil and strongly acid through slightly alkaline in the substratum
Depth to a seasonal high water table: More than 6 feet
Flooding: None
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with brush and weeds. Some areas are used as pasture, and a few areas are used for hay.

Cropland.—This unit is generally not suited to cultivated crops because of steep and very steep slopes and a severe hazard of erosion. Because of excessive slope, operating farm machinery is hazardous.

Pasture.—This unit is generally not suited to pasture because of steep and very steep slopes and the hazard of erosion. Some of the less sloping areas are moderately suited to permanent pasture. Rotational grazing and proper stocking rates help to keep the pasture in good condition. Applications of lime and fertilizer and weed control increase forage yields in some areas.

Dwellings.—Because of excessive slope, this unit is very limited as a site for dwellings. In most areas extensive landscaping and grading are needed because of steep or very steep slopes. The adjacent soils that are less sloping may be better suited to dwellings and should be considered as alternative sites.

Septic tank absorption fields.—Because of excessive slope, this unit is very limited as a site for conventional septic tank absorption fields. The adjacent soils that are less sloping and have a better filtering capacity should be considered as alternative sites. State and local health codes may prohibit the installation of conventional systems on this unit because of the slope. These codes should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—Because of excessive slope, this unit is very limited as a site for local roads and streets. The roads and streets should be built in the less sloping areas where possible. Designing the roads so that they conform to the natural slope of the land and selecting road locations and grades that minimize the need for cutting and filling reduce the adverse effects of this limitation in some areas. Erosion-control structures and seeding are needed in disturbed areas, such as banks and ditches.

The land capability subclass is 7e.

This Chenango soil commonly has redder colors than is allowed in the Chenango series. This difference is probably related to the color of the parent material or to incipient spodic development. Generally, the redder colors do not significantly affect the use and management of the soil.

982—Wallkill silt loam

This very deep, nearly level, very poorly drained soil is on flood plains. It occurs in the Mohawk Valley, along the Mohawk River and several tributary streams. The soil formed in alluvium over organic material. Generally, areas of this map unit are roughly oval, oblong, or elongated. They range from 31 to 98 acres in size and typically are about 50 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer
0 to 8 inches, very dark gray silt loam

Subsoil
8 to 12 inches, very dark gray silt loam with a few yellowish red redoximorphic concentrations

Substratum
12 to 22 inches, gray, firm silty clay loam with yellowish brown redoximorphic concentrations
22 to 56 inches, dark reddish brown muck
56 to 72 inches, gray sand and gravel

Included Areas

Included areas make up about 15 percent of the map unit. They are as much as 3 acres in size. They are as follows—
- On flood plains, poorly drained Wayland soils, which do not have organic deposits
- In depressions and small bogs, small areas of Palms soils, which formed in organic deposits that are 16 to 51 inches deep over loamy material, and small areas of Adrian soils, which are underlain by sandy deposits
- In the slightly higher areas and near the periphery of the unit, poorly drained Canandaigua soils, which formed in glaciolacustrine mineral deposits
- A few spots of Carlisle soils, which formed in organic deposits that are more than 51 inches thick

Soil Properties

Wallkill soil

Permeability: Moderate in the surface layer, the subsoil, and the upper part of the substratum and moderately rapid or rapid in the lower part of the substratum
Available water capacity (40-inch profile): High
Soil reaction: Strongly acid through slightly alkaline in the mineral and organic layers in the upper part of the profile and strongly acid through moderately alkaline in the lower part of the substratum
Depth to a seasonal high water table: At the surface to 1.0 foot below the surface from September through June
Flooding: Occasional, brief to long, September through June
Depth to bedrock: More than 60 inches

Use and Management

Most areas of this map unit are used as woodland or are covered with water-tolerant brush and herbaceous vegetation. Many areas were once cleared and drained for agricultural production, but only a few small areas are still cultivated.

Cropland.—This unit is generally unsuited to cultivated crops because of prolonged wetness caused by the seasonal high water table. In a few intensively managed areas, an artificial drainage system has been installed to permit agricultural production. Open ditch drainage, tile drainage, and diking are common practices that have been applied to control the high water table in the drained areas.

Pasture.—This unit is generally not suited to pasture because of occasional flooding and prolonged periods of wetness during the growing season. Flooding is likely to restrict grazing. Overgrazing or grazing when the soil is wet can result in surface compaction and a decrease in the quantity and quality of forage. Deferred and rotational grazing and weed and brush control increase the quantity and quality of feed and forage crops. Proper management of livestock during periods of high water decreases the potential for animal loss. Fencing helps to keep livestock away from streams and streambanks.

Dwellings.—This unit is very limited as a site for dwellings because of occasional flooding, prolonged periods of wetness caused by the seasonal high water table, and a high organic matter content. The higher adjacent soils that are better drained and are not subject to flooding are better sites for dwellings. State or local regulations may prohibit or restrict the construction of dwellings on this unit. Also, wetland regulations should be investigated before dwellings are constructed on the unit.

Septic tank absorption fields.—This unit is very limited as a site for conventional septic tank absorption fields because of occasional flooding and prolonged periods of wetness caused by the seasonal high water table. The higher adjacent soils that are better drained and are not subject to flooding are better suited to conventional systems. Poor filtering of effluent and the subsequent contamination of the water supply can occur during periods of flooding. State or local health codes and wetland regulations may prohibit use of the unit as a site for conventional systems. These codes and regulations should be investigated before any onsite sewage disposal system is installed.

Local roads and streets.—This unit is very limited as a site for local roads and streets because of occasional flooding, prolonged periods of wetness, and the potential for frost action. In some areas subsidence and low strength are additional limitations. The higher adjacent soils that are better drained and are not subject to flooding are better suited to this use. Wetland regulations may prohibit or restrict road construction, additions of fill, or alteration of drainage. These regulations should be investigated before local roads and streets are constructed on this unit.

The land capability subclass is 5w.

W—Water

This map unit consists of water areas as much as 40 acres in size. The water is generally more than 1.0 foot deep throughout the year. The unit supports various aquatic plant species. Areas of water larger than 40 acres are labeled by the designated name of the water body.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 5. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

About 324,298 acres in Oneida County, or more than 40 percent of the land area in the county, meets the requirements for prime farmland. The prime farmland is in scattered areas throughout most of the county. The most extensive acreage occurs south of the Mohawk River. Other sizeable areas of prime farmland are concentrated in valleys, especially along the Mohawk River and also along the West Branch of the Unadilla River, Nine Mile Creek, Fish Creek, the Mad River, Six Mile Creek, and West Canada Creek. The crops grown on the prime farmland are mostly corn and hay on uplands and corn, hay, soybeans, oats, and some vegetable crops in valleys and in some broad areas on uplands.

Crops and Pasture

Prepared by Paul A. Ray, Resource Conservationist, Natural Resources Conservation Service.

General management needed for crops and pasture is suggested in this section. The system of land capability used by the Natural Resources Conservation Service is explained in this section, and the estimated yields of the main crops grown in Oneida County are listed for each soil.

Planners of conservation management systems for individual fields or groups of fields, known as conservation treatment units, on farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the Oneida County USDA Service Center or from the Cornell Cooperative Extension Service. The USDA Service Center houses the local office of the Natural Resources Conservation Service and the Oneida County Soil and Water Conservation District. Information also can be obtained from the New York NRCS "electronic Field Office Technical Guide" on the Internet (http://efotg.nrcs.usda.gov/efotg_locator.aspx?map—NY).

Farmland made up about 220,486 acres in Oneida County in 2002 (USDA, 2004). Of this farmland, 146,048 acres was cropland, pasture, or hayland. A total of 52,319 acres was harvested for all types of hay; 66,178 acres was managed for forage, including hay, haylage, grass silage, and greenchop; and 18,270 acres was harvested for all types of grain, including corn and small grains (e.g., oats, barley, and winter wheat).

The acreage used for crops has decreased in the past decade as numerous farms have gone out of operation. The acreage of pasture has increased slightly. Many farmers rely heavily on the productivity of pastures during the growing season to meet the bulk of the nutritional needs of their animals. Some farmers have initiated rotational grazing systems and have converted crop fields to pasture in order to obtain the forage required for their operation.

Specialty crops are grown extensively for commercial use and direct farm sales in selected areas of the county. These crops include potatoes, sweet corn, cabbage, strawberries, and beans. Conesus, Honeoye, Howard, Phelps, and other very deep soils that are characterized by adequate natural drainage and a moderate or high available water capacity are especially well suited to vegetables.

The potential for increased crop production in many parts of the county is good. Proper use and management of soils can help to sustain production over the long term. The numerous north- to south-oriented valleys south of the Mohawk River commonly have soils that formed in glacial outwash, such as Howard and Phelps soils. These are among most productive soils in the county. The relatively lower elevation of the valleys results in a slightly longer growing season for the crops. Also, the soils tend to be more accessible earlier in the year for planting and later in the year for harvest or late-season grazing. If managed properly, many areas of idle land in the county could be used for sustained high-yield crop production.

Water erosion is a hazard in many areas of the cropland in Oneida County. It occurs as sheet erosion, rill erosion, and gully erosion, which is the most drastic and damaging. Accelerated erosion results in the loss of plant nutrients and of the soil moisture available for plant growth; the formation of rills and gullies; deterioration of tilth and soil structure; sedimentation of downslope areas; and the pollution of water bodies. Also, it adversely affects wildlife and recreation resources and results in costly remediation and repair efforts. The hazard of water erosion is related to the length and degree of slope, the erodibility of the soil, the amount and intensity of rainfall, and the amount and type of plant cover. Erosion also is influenced by the types of conservation management practices employed to control the erosive forces of water.

Erosion can be a hazard in areas other than cropland if the surface is not protected by vegetation. For example, gullying in shallow road ditches may cut into original soil material in areas where vegetation has not been reestablished. Spring snowmelt followed by heavy rainfall can form gullies in a relatively short period of time. Runoff tends to become concentrated along the shoulders and ditches of roads, making these areas susceptible to erosion.

Soil productivity decreases when the surface layer is lost through erosion and increasing amounts of subsoil are incorporated into the plow layer. This decrease especially occurs in areas of Cazenovia and other soils that have a fine textured subsoil and in areas of Pinckney, Mardin, and other soils that have root-restricting layers. Soils that are shallow to bedrock, such as Arnot or Farmington soils, can be irreparably damaged by erosion.

Erosion-control practices provide a protective cover and reduce the runoff rate. Also, they increase the rate of water infiltration into the soil, thus making more water available for plant growth. Many tillage and conservation practices help to control erosion, and a combination of practices is generally recommended, especially as the degree and/or length of slope increases. Crop residue management practices, such as zone-till and mulch tillage, cover crops, and crop rotations that include grasses and legumes, are effective on Howard and other soils having short, irregular slopes. Contour tillage, stripcropping, and diversions are most effective on soils that have long, uniform slopes, such as Honeoye, Lansing, and Mardin soils.

Erosion control is generally needed on soils that have slopes of more than 5 percent. Soils that have a high content of silt and few or no rock fragments, such as Scio and Unadilla soils, are highly susceptible to water erosion. The effectiveness of a single erosion-control practice or of a group of erosion-control practices differs from one soil to another, and different combinations can be equally effective in some areas.

Seasonal wetness can delay planting or cause crop damage in areas of somewhat poorly drained soils in the county, such areas Appleton, Ovid, and Venango soils. Poorly drained or very poorly drained soils, such as Chippewa, Lyons, and Wayland soils, are generally too wet for the production of the crops commonly grown in the county. Surface and subsurface drainage systems have been installed in some areas of the somewhat poorly drained and poorly drained soils in the county.

Surface stones, boulders, and rock outcrops severely limit the use of some areas in the county as cropland or pasture. They interfere with the use of farming equipment. Some very stony or very bouldery soils, such as those in the very bouldery Becket-Tunbridge complexes, are better suited to permanent pasture than to cultivated crops. Applying fertilizer, reseeding, and mowing are difficult in many pastured areas of these soils.

Removing the larger stones and boulders from some soils that have few other limitations may be feasible. Overcoming limitations in areas of rock outcrop, however, is generally not feasible. Such areas occur in the Farmington-Rock outcrop complex, 8 to 15 percent slopes.

Available water capacity is an important factor that affects crop growth. Some soils in the county tend to be droughty. Sandy and gravelly soils, soils that have a restrictive layer, and soils that are shallow over bedrock tend to have a fairly low available water capacity. The sandy Windsor soils and the shallow Arnot soils tend to have a low or very low available water capacity. Maintaining or increasing the content of organic matter and improving soil structure increase the available water capacity of these droughty soils. Cover crops that are incorporated during tillage operations, crop residue management, and the addition of manure increase the content of organic matter and improve soil structure and tilth.

Soil tilth is an important factor affecting the emergence of seedlings, the infiltration of water, and the ease of cultivation. Soils with good tilth generally have granular structure and are porous. They can be kept granular and porous by cultivating at the proper moisture content, by including sod crops and cover crops in the crop rotation, and by properly managing crop residue or adding manure.

Tillage operations can influence tilth. Excessive tillage tends to reduce the content of organic matter and break down soil structure. Howard, Chenango, and other soils that are very deep, somewhat excessively drained, and moderately coarse textured can be tilled throughout a wide range in moisture content without significant deterioration of tilth. Tilling the wetter and finer textured soils, such as Cazenovia, Niagara, and Rhinebeck soils, at the proper moisture content helps to prevent deterioration of soil structure and the formation of impervious subsurface plowpans. Tilling when these soils are wet results in puddling and in the formation of a hard surface crust. Also, clods usually develop as the soils dry. Cultivating the soils at the proper moisture content, including cover crops and sod crops in the cropping system, returning crop residue to the soils, and adding manure help to keep the soils granular and porous.

Soil fertility is an important factor affecting optimum crop production. The soils in the county require lime or fertilizer for optimum production, and some require both. In some areas soil pH is not a problem because of the natural content of lime in the soil. The amount of lime and fertilizer needed depends on the natural content of lime and plant nutrients, the needs of the crop, and the level of desired yields. Regular soil sampling for fertility analysis is highly recommended. The test results can provide information about application that meets agronomic needs, results in economic savings, and helps to prevent the water pollution caused by over-application and polluted runoff.

The content of organic matter is an important factor affecting fertility. Poorly drained and very poorly drained soils that have a dark surface layer, such as Canandaigua soils, have a relatively high content of organic matter. The lighter colored Chadakoin soils have a lower content. Carlisle and Palms soils formed mostly in organic material and are dark colored throughout.

Nitrogen is released from the organic matter, but much of it is in complex forms that cannot be used by growing plants until it is decomposed by soil micro-organisms. Nitrogen fertilizer is needed to supplement the plant-available nitrogen from the organic matter in the soil. Management practices that increase the content of organic matter, such as cover crops and sod crops in the rotation and crop residue management, increase the content of nitrogen.

Timely applications of nitrogen fertilizer help to ensure the maximum use of the nitrogen by plants. Nitrogen can be lost through leaching in rapidly permeable soils, such as Chenango soils, or by denitrification in the wetter and less permeable soils, such as Ovid soils. The best results can be obtained by applying small amounts of nitrogen at the proper intervals (e.g., split applications) and by using the pre-sidedress nitrogen test (PSNT). In areas where split applications are used, the nitrogen is applied at the time of planting and later as a side-dressing when the crop is growing.

While the overall content of phosphorus in the agricultural soils in Oneida County is relatively high, the natural content is generally low. It tends to be very low in Chenango and other coarse textured soils. Additions of the appropriate amounts of phosphate in the form of commercial fertilizer are essential in cropped areas. The content of phosphorus in feed brought to the farm and in manure applied to cropland should be taken into account in a farm nutrient budget that is based on regular soil and feed analysis.

Most of the soils in the county have low or medium levels of available potassium. The potassium-supplying power of a soil depends on the content of clay. Soils that have a clayey subsoil, such as Schoharie and Manheim soils, are somewhat higher in content of potassium than other soils. Even soils that have a fairly high content of potassium require additional potassium for the optimum yields of most crops.

Lime is needed on many of the soils in the county to raise the reaction (pH) to a level that ensures the optimum yields of most crops. Many of the soils in the northern part of the county overlie or formed in material weathered from limestone or calcareous shale. Typically, they do not require so much lime as soils in the other parts of the county. Additions of lime and fertilizer should be based on the results of soil tests. For assistance in obtaining soil tests and recommendations, farmers and others can contact the local office of the Cornell Cooperative Extension Service.

Information about recent research findings and fertilizer recommendations is available in the current edition of the “Cornell Guide for Integrated Field Crop Management” and in the “Cornell Field Crops and Soils Handbook” prepared by the New York State College of Agriculture and Life Sciences at Cornell University in Ithaca, New York (Cornell University, 2008 and 1988). Additional information can be obtained by contacting the local office of the Cornell Cooperative Extension Service or by accessing the following URL: http://www.cce.cornell.edu/editor/show/In_Your_Community.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 6.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cornell Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Woodland Management and Productivity

Al Brown, New York State Department of Environmental Conservation, helped prepare this section.

Oneida County lies within the range of tree species associated with the Northern Hardwood Group. The main species in this group are hard maple, beech, and yellow birch. Commonly associated with these species are soft maple, black cherry, white ash, basswood, and hemlock. These species are throughout most of the county. There are regional variations; some species are more prevalent in certain areas, while others may not occur at all or occur only in small percentages.

In the northern parts of the county in the Adirondack Foothills and the fringes of the Tug Hill region, hemlock, red spruce, balsam fir, and white pine are the most common coniferous species. Spruce, fir, and hemlock are common in areas of imperfect drainage. The hardwoods in this region represent a typical mixture of the Northern Hardwood species indicated in the first paragraph of this section.

In the area north and east of Oneida Lake, the Northern Hardwood species described in the first paragraph are common. Red oak and tulip poplar occur in small percentages. Also associated with these hardwoods are hemlock and white pine. Soft maple, red oak, hemlock, and white pine are common farther east on the Oneida Lake Plain. Pitch pine, which is not common in most of New York State, grows on the lake plain east of Oneida Lake.

The southern part of Oneida County generally produces high-quality trees at a faster growth rate than other parts of the county. Hard maple is the dominant species. It grows in association with beech, ash, basswood, and hemlock. Yellow birch, although common, is not a major component of the species mixture.

On the flats adjacent to the Mohawk River and the Erie Barge Canal, the dominant species are soft maple, basswood, cottonwood, and other water-loving species.

The occurrence of erosion on woodland is primarily related to harvesting techniques and to the layout of roads and skid trails. Erosion does not normally occur in an undisturbed woodlot.

The removal of trees during a harvest can expose the soil to the direct impact of raindrops. In the more sloping areas, an adequate plant cover is needed to prevent excessive erosion. The harvest method in steep areas should be modified to prevent excessive erosion. As slope increases, the number of trees removed should decrease. Trees on very steep slopes with highly erodible soil should not be harvested. Several other factors should influence the decision to remove trees from the more sloping areas. These factors include the amount of low ground cover and the length of slopes.

Roads developed for a timber harvest should follow the contour of the land as closely as possible and should not be located in areas where the soils are poorly drained. Stream crossings should be limited in number, should be located where the surrounding terrain is higher than the stream level, and should be perpendicular to the stream channel.

Properly closing roads and trails after a harvest can minimize erosion. Water bars should be installed on any sloping road to divert water off of the road. As slope increases, the water bars should be placed more closely together. Seeding roads and landings helps to stabilize the soil and enhances the habitat for wildlife.

Management decisions should be influenced by soil drainage. On poorly drained sites, tree growth is limited and productivity is low. Trees generally grow slowly after a poorly drained site is thinned. Thinning efforts are generally most effective on the more productive soils. Excessive harvesting on sites with shallow soils may result in windthrow of many of the remaining trees.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service and on the Internet (ftp://ftp-fc.sc.egov.usda.gov/NSSC/National_Forestry_Manual/).

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forest Management

In tables 8, 9, and 10, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service and on the Internet (ftp://ftp-fc.sc.egov.usda.gov/NSSC/National_Forestry_Manual/).

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Recreation

The soils of the survey area are rated in tables 11 and 12 according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 11 and 12 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 13, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, trefoil, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, maple, poplar, cherry, apple, hawthorn, dogwood, and hickory. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are Russian-olive, autumn-olive, crabapple, blackberry, and blueberry.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, and industrial uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel and sand; plan ponds and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14 and 15 show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16 and 17 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through perforated pipe or similar devices. The part of the soil between depths of 12 and 48 inches is evaluated. In addition, the bottom layer of soil is evaluated for risk of seepage. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, flooding, and depth to bedrock or dense material affect absorption of the effluent. Stones and boulders, and bedrock or dense material interfere with installation. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 18 gives information about the soils as potential sources of gravel and sand. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table 18, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by data for particle-size fractions and percent passing sieves) and the content of rock fragments larger than 3 inches.

The soils are rated *probable* or *improbable* as potential sources of sand and gravel. A rating of *probable* means that the source material is likely to be available in suitable quantity in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source. Hydric soils are considered improbable sources regardless of whether they meet other criteria.

Water Management

Table 19 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 20 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical and Chemical Properties

Table 21 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 21, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 21, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 21 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Soil Features

Table 22 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 23 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in table 23 indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 23 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 23 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1990 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 24 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Inceptisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquept (*Aqu*, meaning water, plus *ept*, from Inceptisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fragiaquepts (*Fragi*, meaning fragipan, plus *aquept*, the suborder of the Inceptisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Fragiaquepts.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, mesic Typic Fragiaquepts.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, is typical of the series in the survey area described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1990). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Adams Series

The Adams series consists of very deep, excessively drained or somewhat excessively drained soils on outwash plains, terraces, kames, eskers, and lake plains in the Adirondack region, in the northeastern part of the county. These soils are dominantly excessively drained and formed in glaciofluvial, glaciolacustrine, or deltaic sandy material. Slopes range from 0 to 45 percent.

Adams soils are commonly adjacent to excessively drained Colton soils, which have more rock fragments than the Adams soils. Adams soils are near moderately well drained Croghan soils and somewhat poorly drained and poorly drained Naumburg soils. Well drained Becket soils are on nearby till plains. Adams soils formed in material similar to that of excessively drained Windsor soils, which are mapped in the warmer areas of the county.

Typical pedon of Adams loamy sand, 0 to 3 percent slopes, in the town of Boonville, Oneida County, 2.5 miles southeast of Hawkinsville, between Black River and Crystal Creek, and 40 feet north of a logging road:

Oa—0 to 1 inch; black (10YR 2/1), highly decomposed plant material; 30 percent fibers unrubbed, less than 10 percent fibers rubbed; weak medium and fine granular structure; very friable; many fine and few medium and coarse roots; strongly acid; abrupt smooth boundary.

E—1 to 4 inches; brown (10YR 5/3) loamy sand; weak fine and medium granular structure; very friable; many fine, common medium, and very few coarse roots; very strongly acid; abrupt smooth boundary.

Bs1—4 to 12 inches; brown (7.5YR 4/4) loamy sand; 20 percent of the horizon consisting of firmer bodies 1 to 2 inches in diameter; weak medium subangular blocky structure parting to weak fine granular; friable; common fine and very fine and few coarse roots; very strongly acid; clear smooth boundary.

Bs2—12 to 17 inches; strong brown (7.5YR 4/6) sand; weak medium and fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.

BC—17 to 25 inches; yellowish brown (10YR 5/4) sand; 20 percent of the horizon consisting of dark brown (10YR 3/3) firmer bodies; very weak fine and medium subangular blocky structure; very friable; few fine roots; strongly acid; clear smooth boundary.

C—25 to 72 inches; yellowish brown (10YR 5/4) sand; single grain; loose, friable; strongly acid.

The thickness of the solum ranges from 16 to 35 inches. The depth to bedrock is generally more than 6 feet. The content of rock fragments, mostly gravel, ranges from 0 to 5 percent, by volume, above a depth of 20 inches and from 0 to 20 percent below that depth. In some pedons contrasting very gravelly deposits occur below a depth of 40 inches.

The O horizon is neutral in hue or has hue of 5YR through 10YR. It has value of 2 or 3 and chroma of 0 through 2.

Some pedons have an A or Ap horizon. This horizon has hue of 5YR through 10YR, value of 2 through 5, and chroma of 1 through 4. The fine-earth fraction is loamy fine sand, loamy sand, or sand. Structure is weak or moderate fine or medium granular, or the horizon is single grain. Consistence is friable or very friable. Unless the soils have been limed, reaction ranges from extremely acid through moderately acid.

The E horizon has hue of 5YR through 10YR, value of 5 through 7, and chroma of 1 through 3. The fine-earth fraction is loamy fine sand, loamy sand, fine sand, or sand. The horizon is single grain in most pedons but is granular in some pedons. Consistence is friable through loose. Reaction ranges from extremely acid through moderately acid.

Some pedons have a thin Bhs or Bh horizon, which is discontinuous to well expressed.

The Bs horizon has hue to 5YR through 10YR, value of 3 through 6, chroma of 3 through 8. The fine-earth fraction is loamy fine sand, loamy sand, fine sand, or sand. Structure is weak granular or subangular blocky, or the horizon is single grain or massive. Consistence is very friable or loose. Massive, cemented bodies (ortstein) range from 0 to 30 percent of the exposed surface area of the horizon. Reaction ranges from very strongly acid through moderately acid.

The BC horizon has hue of 7.5YR through 5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is dominantly sand but ranges from fine sand through coarse sand. Consistence is very friable or loose. Cemented bodies make up as much as 20 percent of the exposed surface area in some pedons. Reaction ranges from very strongly acid through moderately acid.

The C horizon has hue of 5YR through 5Y, value of 4 through 7, and chroma of 2 through 6. The fine-earth fraction is dominantly sand but ranges from fine sand through coarse sand. Reaction ranges from very strongly acid through slightly acid.

Adirondack Series

The Adirondack series consists of very deep, somewhat poorly drained or poorly drained soils in glaciated uplands in the Adirondack region, in the northeastern part of the county. These soils are in concave areas on footslopes and the lower side slopes and along drainageways. They are dominantly somewhat poorly drained and formed in glacial till. Slopes range from 2 to 8 percent.

Adirondack soils are in a drainage sequence that includes well drained Becket soils and moderately well drained Skerry soils. They formed in parent material similar to that of Becket and Skerry soils. Naumburg soils are near Adirondack soils. They formed in deltaic, lacustrine, and outwash deposits and have stratified sandy material within a depth of 40 inches.

Typical pedon of Adirondack fine sandy loam, 2 to 8 percent slopes, very bouldery, in the town of Forestport, Oneida County, about 3 miles west of Woodgate on Hawkinsville Road, about one-eighth of a mile north of a dirt road and 25 feet east of the dirt road; McKeever USGS topographic quadrangle (WGS84); lat. 43°31´08´´ N. and long. 75°12´48´´ W.

Oa—0 to 2 inches; black (2.5Y 2.5/1), highly decomposed organic material consisting of about 40 percent silt; weak fine and medium granular structure; very friable; many fine, common medium, and few coarse roots; 5 percent rock fragments; extremely acid; abrupt smooth boundary.

E—2 to 4 inches; gray (5YR 5/1) fine sandy loam; few fine prominent light olive brown (2.5Y 5/4) redoximorphic concentrations; weak fine and medium subangular blocky structure; very friable; many fine and common medium roots; 5 percent rock fragments; extremely acid; abrupt smooth boundary.

Bs/Bh—4 to 13 inches; dark reddish brown (5YR 3/4) fine sandy loam matrix with brown (7.5YR 4/4) (Bs part) and dark reddish brown (5YR 2.5/2) (Bh part) components; few fine distinct brown (7.5YR 5/2) redoximorphic depletions and few fine distinct brown (7.5YR 5/4) redoximorphic concentrations; brown (7.5YR 5/2) on faces of peds in the lower part of the horizon; weak medium and coarse subangular blocky structure parting to weak fine granular; friable; moderately smeary; many fine and few medium and coarse roots; common fine vesicular and few fine tubular pores; 5 percent rock fragments; extremely acid; clear wavy boundary.

Bs—13 to 24 inches; brown (7.5YR 4/4) sandy loam; common fine distinct strong brown (7.5YR 5/6) and faint light brown (7.5YR 6/4) redoximorphic concentrations; moderate thick platy structure parting to weak fine and medium subangular blocky; friable; many fine and few medium and coarse roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

BC—24 to 37 inches; yellowish brown (10YR 5/4) coarse sandy loam; many coarse distinct dark yellowish brown (10YR 4/6) redoximorphic concentrations and common medium distinct light brownish gray (10YR 6/2) redoximorphic depletions; weak medium and coarse subangular blocky structure; friable; 5 percent rock fragments; strongly acid; clear wavy boundary.

C—37 to 46 inches; grayish brown (10YR 5/2) cobbly sandy loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations and common faint light brownish gray (10YR 6/2) redoximorphic depletions; massive; friable; 20 percent rock fragments; strongly acid; clear smooth boundary.

Cd—46 to 72 inches; grayish brown (10YR 5/2) cobbly coarse sandy loam; massive; firm; 30 percent rock fragments; strongly acid.

The thickness of the solum ranges from 15 to 38 inches. The depth to bedrock is more than 60 inches. Redoximorphic features consisting of iron depletions or concentrations occur in the spodic horizon, within 20 inches of the mineral soil surface. The content of rock fragments ranges from 5 to 35 percent, by volume, throughout the profile.

The O horizon, which does not occur in some pedons, ranges from fibric material to sapric material. Reaction is extremely acid or very strongly acid.

Some pedons have an A horizon. This horizon is neutral in hue or has hue of 5YR through 10YR. It has value of 1 through 3 and chroma of 0 through 3. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam. Reaction ranges from extremely acid through strongly acid.

The E horizon has hue of 5YR through 10YR, value of 5 through 7, and chroma of 1 or 2. The fine-earth fraction is loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam. Reaction ranges from extremely acid through strongly acid.

The Bh horizon has hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction is sandy loam, fine sandy loam, loam, or silt loam. Consistence is friable or very friable. Reaction ranges from extremely acid through strongly acid.

The Bhs horizon has hue of 5YR or 7.5YR and value and chroma of 3. It is similar to the Bh horizon in texture, consistence, and reaction.

The Bs horizon has hue of 5YR or 7.5YR, value of 3 through 5, and chroma of 3 or 4. The fine-earth fraction is sandy loam, fine sandy loam, loam, or silt loam. Consistence is friable or very friable. Reaction ranges from extremely acid through strongly acid.

The BC horizon, where present, has hue of 7.5YR through 2.5Y, value of 3 though 6, and chroma of 1 through 4. The fine-earth fraction ranges from loamy fine sand through silt loam. Consistence is friable or firm. Reaction ranges from very strongly acid through moderately acid.

The C horizon has hue of 10YR through 2.5Y, value of 4 or 5, and chroma of 1 or 2. The fine-earth fraction is loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam. The horizon is massive or has weak platelike divisions. Consistence is friable or firm. Reaction is strongly acid or moderately acid.

The Cd horizon has hue of 10YR through 2.5Y, value of 4 or 5, and chroma of 1 or 2. The fine-earth fraction is loamy sand, loamy fine sand, coarse sandy loam, sandy loam, fine sandy loam, or loam. The horizon is massive or has weak platelike divisions. Consistence is firm or very firm. Reaction is strongly acid or moderately acid.

Adrian Series

The Adrian series consists of very deep, very poorly drained soils in depressions on outwash plains, lake plains, flood plains, and some upland till plains in the Mohawk Valley and the southern part of the county. These soils formed in organic material 16 to 51 inches deep over sandy deposits. Slopes range from 0 to 2 percent.

Adrian soils are similar to the nearby Palms soils, which have loamy material at a depth of 16 to 51 inches. Adrian soils are near Napoleon soils, which have more than 51 inches of organic deposits. In the higher areas of sandy outwash plains, Adrian soils are adjacent to excessively drained Windsor soils and moderately well drained Covert soils. Poorly drained Jebavy soils are in nearby areas, in landscape positions similar to those of the Adrian soils. They do not have organic deposits.

Typical pedon of Adrian muck, in the town of Paris, Oneida County, 25 feet south of Willowbrook Road and 100 feet west of the Erie-Lackawanna Railroad:

Oa1—0 to 8 inches; black (10YR 2/1) (rubbed) sapric material (muck); 15 percent fibers unrubbed, 5 percent fibers rubbed; very fine granular structure; friable; many fine and very fine roots; neutral; abrupt smooth boundary.

Oa2—8 to 12 inches; very dark grayish brown (10YR 3/2) (rubbed) sapric material (muck); 10 percent fibers unrubbed, 3 percent fibers rubbed; weak medium subangular blocky structure; friable; common fine and very fine roots; neutral; abrupt wavy boundary.

Oa3—12 to 21 inches; dark reddish brown (5YR 2.5/2) (rubbed) sapric material (muck); 20 percent fibers unrubbed, 10 percent fibers rubbed; massive; friable; few roots; neutral; abrupt smooth boundary.

C—21 to 72 inches; dark gray (10YR 4/1) gravelly loamy sand; common medium prominent light olive brown (2.5Y 5/4) redoximorphic concentrations; single grain; loose; 25 percent rock fragments; moderately alkaline; slightly effervescent.

Depth to the sandy horizon ranges from 16 to 51 inches. In some pedons the mineral layer is a single layer 12 or more inches thick and has organic material above and below it. The organic fibers are derived primarily from herbaceous plants, but some layers contain as much as 50 percent material of woody origin. The organic material is strongly acid through neutral.

The surface tier has hue of 5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 3. Value normally increases several units when the material is pressed. The texture is dominantly muck (sapric material), but in some pedons it is mucky peat (hemic material). Some pedons have a mat of sphagnum moss on the surface. The mat is 1 to 4 inches thick.

The subsurface and bottom tiers have hue of 5YR through 10YR or are neutral in hue. They have value of 2 or 3 and chroma of 0 through 3. Some pedons have layers of mucky peat (hemic material) less than 10 inches thick. Some have layers of peat (fibric material) less than 5 inches thick. In some pedons a layer of sedimentary peat 1 to 2 inches thick overlies the C horizon.

The C horizon has hue of 5YR through 5Y or is neutral in hue. It has value of 2 through 6 and chroma of 0 through 4. The fine-earth fraction is sand, coarse sand, fine sand, loamy sand, or the gravelly or very gravelly analogs of those textures. Strata of finer textures occur in some pedons. The content of rock fragments ranges from 0 to 60 percent, by volume. Reaction ranges from moderately acid through moderately alkaline. The horizon is effervescent in some pedons.

Correlation note: In map unit 212 (Adrian muck), the surface tier has a color value slightly outside the range defined for the Adrian series. This difference generally does not significantly affect the use and management of the soil.

Alton Series

The Alton series consists of very deep, somewhat excessively drained or well drained soils on outwash plains and terraces and in areas of water-sorted moraine deposits. These soils are dominantly somewhat excessively drained and formed in glacial outwash derived mainly from sandstone with variable components of limestone and shale. Slopes range from 0 to 45 percent.

Alton soils are commonly adjacent to and form a drainage sequence with moderately well drained Castile soils and somewhat poorly drained Fredon soils. In some areas Alton soils are adjacent to and similar to Howard and Chenango soils and are adjacent to Knickerbocker soils. Alton soils have a lower content of limestone fragments than Howard soils and have a higher reaction and more limestone fragments in the substratum than Chenango and Knickerbocker soils.

Typical pedon of Alton gravelly loam, 3 to 8 percent slopes, in the city of Rome, Oneida County, 450 feet northeast of the end of Merrick Road, where it intersects with the Woodcreek Apartment Complex:

Ap—0 to 9 inches; dark brown (10YR 3/3) gravelly loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; very friable; many very fine and fine roots; 20 percent rock fragments; moderately acid (limed); abrupt smooth boundary.

Bw1—9 to 24 inches; yellowish brown (10YR 5/6) very gravelly fine sandy loam; weak fine granular structure; very friable; common fine and very fine roots; 35 percent rock fragments; moderately acid; gradual wavy boundary.

Bw2—24 to 40 inches; yellowish brown (10YR 5/4) very gravelly sandy loam; weak medium granular structure; very friable; common fine roots; 45 percent rock fragments; moderately acid; gradual wavy boundary.

BC—40 to 58 inches; yellowish brown (10YR 5/4) very gravelly sandy loam; weak medium granular structure; very friable; 55 percent rock fragments; slightly acid; gradual wavy boundary.

2C—58 to 72 inches; dark yellowish brown (10YR 4/4) very gravelly loamy sand; single grain; loose; 50 percent rock fragments; slightly alkaline; strongly effervescent.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 40 to 80 inches. The content of rock fragments ranges from 10 to 50 percent, by volume, in the surface layer and the upper part of the subsoil and from 35 to 60 percent in the lower part of the subsoil and in the substratum. The average content of rock fragments in the solum and the upper part of the substratum is more than 35 percent. The content of fine sand and coarser sand ranges from 50 to 70 percent in the fine earth in the solum.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from loamy sand through loam. Reaction is very strongly acid or strongly acid unless the soils have been limed.

The Bw horizons have hue of 10YR through 2.5YR and value and chroma of 3 through 6. The fine-earth fraction ranges from sandy loam through loam above a depth of 20 inches and is coarser than loam below that depth. Reaction ranges from strongly acid through neutral, and acidity generally decreases as depth increases.

Some pedons have a BC horizon, which is as much as 20 inches thick.

The 2C horizon has hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. It is stratified gravel and sand, loamy sand, or sandy loam that is derived mainly from sandstone, but small amounts may be derived from limestone or shale.

Amenia Series

The Amenia consists of very deep, moderately well drained soils on hilltops and side slopes on uplands in the southern part of the county. These soils formed in calcareous glacial till derived mainly from limestone and shale with small amounts of siltstone. Slopes range from 0 to 8 percent.

Amenia soils are commonly adjacent to well drained Nellis soils and somewhat poorly drained Kendaia soils. They are on the same landform as those soils. They are commonly near poorly drained Lyons soils in concave areas or depressions. Shallow, well drained Farmington soils and moderately deep, well drained Galway soils are on nearby limestone-controlled uplands. In some areas Lima soils and well drained Honeoye soils are near Amenia soils on uplands. Lima soils are finer textured than the Amenia soils.

Typical pedon of Amenia silt loam, 0 to 3 percent slopes, in the town of Marshall, Oneida County, 1,100 feet east of the intersection of Route 12 and Summitt Road (Hubbard Corners):

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; 5 percent rock fragments; neutral; abrupt smooth boundary.

A/B—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam in the A part and yellowish brown silt loam (10YR 5/4) in the B part; moderate fine granular structure in the A part and moderate fine and medium subangular blocky structure in the B part; very friable; 5 percent rock fragments; neutral; clear smooth boundary.

Bw1—12 to 20 inches; yellowish brown (10YR 5/4) silt loam; few fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; moderate medium subangular blocky structure; friable; 10 percent rock fragments; neutral; clear smooth boundary.

Bw2—20 to 31 inches; yellowish brown (10YR 5/4) gravelly silt loam; common fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations and few fine distinct dark grayish brown (10YR 4/2) redoximorphic depletions and faces of peds; weak medium subangular blocky structure; friable; 20 percent rock fragments; neutral; clear smooth boundary.

C—31 to 72 inches; brown (10YR 4/3) gravelly loam; common medium prominent reddish brown (2.5YR 4/3) redoximorphic concentrations; massive; firm; 25 percent rock fragments; moderately alkaline; strongly effervescent.

The thickness of the solum ranges from 18 to 36 inches. The depth to carbonates ranges from 10 to 34 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, throughout the profile.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam, loam, or fine sandy loam. Structure is weak or moderate granular. Consistence is friable or very friable. Reaction ranges from moderately acid through slightly alkaline.

The A/B or AB horizon is as much as 6 inches thick.

The Bw horizons have hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 6. Chroma of 2 or less is at a depth of more than 20 inches. The fine-earth fraction is fine sandy loam, loam, or silt loam. Structure is weak or moderate fine through coarse subangular blocky or granular. Consistence is very friable through firm. Reaction ranges from moderately acid through slightly alkaline.

The C or Cd horizon has hue of 7.5YR through 5Y, value of 4 or 5, and chroma of 2 or 3. The fine-earth fraction is silt loam, loam, very fine sandy loam, or fine sandy loam. Structure is platy, or the horizon is massive. Consistence is mainly firm or very firm, but some pedons have a friable C horizon. Reaction is slightly alkaline or moderately alkaline.

Appleton Series

The Appleton series consists of very deep, somewhat poorly drained soils in concave areas on upland till plains and along drainageways. These soils formed in glacial till derived from limestone, sandstone, and shale. Slopes range from 0 to 8 percent.

Appleton soils are commonly adjacent to and are in a drainage sequence with well drained Honeoye, moderately well drained Lima, and poorly drained Lyons soils. Moderately well drained Lima and Conesus soils are on the slightly higher parts of the landscape. Well drained Honeoye and Lansing soils are on nearby hillsides and drumlins. In a few areas on the Oneida Lake Plain, Appleton soils are near poorly drained Canandaigua and somewhat poorly drained Niagara and Minoa soils, which have a lower content of rock fragments than the Appleton soils.

Typical pedon of Appleton silt loam, 0 to 3 percent slopes, in the town of Paris, Oneida County, 1 mile west of the intersection of Bray Road and Sulphur Springs Road and 50 yards south of Bray Road:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable, slightly sticky, slightly plastic; many fine and very fine roots; 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; slightly acid; clear discontinuous boundary.

Bt1—7 to 19 inches; brown (7.5YR 4/3) silt loam; many medium prominent strong brown (7.5YR 5/8) and distinct reddish yellow (7.5YR 6/6) and few fine prominent red (2.5YR 4/8) redoximorphic concentrations; light brownish gray (10YR 6/2) faces of peds; moderate medium and fine subangular blocky structure parting to moderate fine granular; friable, slightly sticky, slightly plastic; many very fine roots; many distinct clay films lining tubular or interstitial pores and on faces of peds; 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

Bt2—19 to 27 inches; grayish brown (10YR 5/2) gravelly silt loam; common medium prominent strong brown (7.5YR 5/8) and fine prominent red (2.5YR 4/8) redoximorphic concentrations; light brownish gray (10YR 6/2) faces of peds; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; few very fine roots; many distinct clay films lining tubular and interstitial pores and on faces of peds; 20 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; slightly acid; clear smooth boundary.

C—27 to 72 inches; brown (10YR 4/3) gravelly silt loam; common medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; massive; firm; few very fine roots; 30 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; strongly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 36 inches. The depth to carbonates ranges from 18 to 32 inches. Redoximorphic features consisting of iron accumulations or depletions occur within 20 inches of the surface. The depth to bedrock is more than 60 inches. The content of rock fragments, mainly gravel, channers, and cobbles, ranges from 5 to 35 percent, by volume, and generally increases with increasing depth.

The Ap horizon has hue of 10YR, value of 2 through 4 (6 or more dry), and chroma of 1 or 2. The fine-earth fraction is loam, silt loam, or fine sandy loam. Reaction ranges from moderately acid through neutral.

Some pedons have an E horizon. This horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 1 through 3. The fine-earth fraction is very fine sandy loam, fine sandy loam, loam, or silt loam. Reaction ranges from moderately acid through slightly alkaline.

The Bt horizons have hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 or 3. It has few to many iron depletions and concentrations. Faces of peds have chroma of 2. The fine-earth fraction is loam, sandy clay loam, or silt loam. The content of clay is between 18 and 27 percent. Reaction ranges from moderately acid through slightly alkaline.

The C horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is fine sandy loam, loam, or silt loam. Structure is platy, or the horizon is massive. Consistence is firm or very firm. Reaction is slightly alkaline or moderately alkaline.

Arkport Series

The Arkport series consists of very deep, well drained soils on outwash plains and lake plains. These soils formed in glaciofluvial or deltaic sandy deposits having a low content of lime and a high content of fine and very fine sand. The subsoil has thin horizontal bands of loamy material. Slopes range from 0 to 15 percent.

Arkport soils are commonly adjacent to and on the same landscape as somewhat excessively drained Howard soils, which have more gravel in the subsoil than the Arkport soils. Somewhat poorly drained Minoa soils are near Arkport soils on the more nearly level landforms and in depressional areas. On some lake plains and till plains that have a thick mantle of lake sediments, moderately well drained Collamer soils are near Arkport soils. Hamlin soils are on nearby flood plains.

Typical pedon of Arkport fine sandy loam, 3 to 8 percent slopes, in the town of Marshall, Oneida County, 250 yards east of Route 12B and 300 yards north of Route 315, in a pit:

Ap—0 to 7 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; moderately acid; abrupt smooth boundary.

E1 and Bt1—7 to 11 inches; dark yellowish brown (10YR 4/4) loamy fine sand (E material); weak medium subangular blocky structure; very friable; dark brown (10YR 3/3) fine sandy loam (Bt material) occurring as lamellae 1 inch thick in the lower part of the horizon; weak fine and medium subangular blocky structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

E2 and Bt2—11 to 20 inches; dark yellowish brown (10YR 4/4) loamy fine sand (E material); massive; very friable; dark brown (10YR 3/3) fine sandy loam (Bt material) occurring as lamellae 2 inches thick in the lower part of the horizon; few fine roots; neutral; abrupt smooth boundary.

E3 and Bt3—20 to 30 inches; dark yellowish brown (10YR 4/4) loamy fine sand (E material); massive; very friable; dark brown (10YR 3/3) fine sandy loam (Bt material) occurring as lamellae 2 inches thick in the lower part of the horizon; few fine roots; neutral; abrupt smooth boundary.

E4 and Bt4—30 to 42 inches; dark yellowish brown (10YR 4/4) loamy fine sand (E material); massive; very friable; dark brown (10YR 3/3) fine sandy loam (Bt material) occurring as lamellae 2 inches thick in the lower part of the horizon; few fine roots; neutral; abrupt smooth boundary.

C—42 to 72 inches; brown (10YR 4/3) fine sand; single grain; loose; neutral.

The thickness of the solum ranges from 40 to 100 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 36 to more than 120 inches. Depth to the uppermost lamella ranges from 9 to 30 inches. Throughout the profile, the content of very fine sand plus silt ranges from 30 to 80 percent and the content of fine sand and coarser sand is more than 15 percent. Rock fragments generally do not occur, but the content of these fragments may be as much as 10 percent.

The Ap horizon has hue of 10YR through 7.5YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is fine sand, loamy fine sand, loamy very fine sand, sandy loam, fine sandy loam, very fine sandy loam, or silt loam. Structure is weak or moderate, fine through coarse granular. Consistence is very friable or friable. Reaction ranges from very strongly acid through neutral.

The E part of the E and Bt horizon has hue of 2.5Y through 5YR, value of 4 through 7, and chroma of 2 through 4. The fine-earth fraction ranges from fine sand through loamy very fine sand. The horizon is structureless or has weak or very weak granular or subangular blocky structure. Consistence is loose through very friable.

The Bt part of the E and Bt horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 6. The fine-earth fraction is silt loam or very fine sandy loam to loamy fine sand. The horizon is massive or has weak fine blocky or platy structure. Consistence is friable or firm. Reaction ranges from strongly acid through neutral.

The C horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction is sand, fine sand, loamy fine sand, very fine sand, or loamy very fine sand. The horizon is massive or single grain. Consistence is loose through friable. Reaction ranges from moderately acid through moderately alkaline.

Arnot Series

The Arnot series consists of shallow, somewhat excessively drained through moderately well drained soils on hilltops and side slopes on bedrock-controlled landforms. These soils are dominantly well drained and formed in glacial till. Slopes range from 3 to 8 percent.

Arnot soils are commonly adjacent to and form a drainage sequence with poorly drained Tuller soils. They are near moderately deep, somewhat poorly drained Greene soils and moderately deep, well drained Manlius soils. Very deep, moderately well drained Mardin soils are on nearby till plains.

Typical pedon of Arnot channery silt loam, 3 to 8 percent slopes, in the town of Paris, Oneida County, 2,480 feet south and 350 feet east of the intersection of Larsen Road and Summit Road:

Ap—0 to 7 inches; dark brown (10YR 3/3) channery silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many fine and very fine roots; 15 percent rock fragments; strongly acid; clear smooth boundary.

Bw1—7 to 16 inches; brown (10YR 4/3) very channery loam; weak fine and medium subangular structure parting to weak fine granular; friable; 45 percent rock fragments, dominantly channers and some flagstones; moderately acid; clear wavy boundary.

Bw2—16 to 19 inches; brown (10YR 4/3) very channery loam; few medium distinct dark yellowish brown (10YR 5/6) redoximorphic concentrations in the lower part of the horizon; weak fine and medium subangular structure; friable; 50 percent rock fragments, dominantly channers and some flagstones; moderately acid; abrupt wavy boundary.

2R—19 inches; very dark gray (10YR 3/1), hard, massive, fine grained sandstone bedrock; moderately acid.

The thickness of the solum ranges from 10 to 20 inches. The depth to bedrock is less than 20 inches. The content of rock fragments of dominantly sandstone, siltstone, or shale ranges from 35 to 70 percent as a weighted average of the particle-size control section. The fine-earth fraction is silt loam or loam throughout the profile. In unlimed areas reaction ranges from extremely acid through moderately acid throughout the profile.

The Ap or A horizon has hue of 5YR through 2.5Y or is neutral in hue. It has value of 2 through 4 and chroma of 0 through 3. Dry colors have the same hue and have value of 5 or 6 and chroma of 2 through 4. Structure is weak or moderate granular. Consistence is very friable or friable.

Some pedons have an E horizon. This horizon is very friable or friable, is 1 to 3 inches thick, and has grayish colors.

The Bw horizons have hue of 2.5YR through 2.5Y, value of 4 through 6, and chroma of 3 through 6. Structure is very weak through moderate, fine or medium, subangular blocky or granular or is weak thin or medium platy. Consistence is friable or firm. In some pedons the Bw2 horizon has few or common redoximorphic features.

Some pedons have a C or 2Cr horizon. This horizon has as much as 80 percent rock fragments.

The 2R layer is hard sandstone, siltstone, or shale. The bedding is horizontal, and in many areas the rock types are interbedded.

Aurora Series

The Aurora series consists of moderately deep, moderately well drained soils on bedrock-controlled uplands. These soils formed in glacial till. Slopes range from 3 to 35 percent.

Aurora soils are commonly adjacent to somewhat poorly drained Greene and shallow, poorly drained Tuller soils in areas where the glacial till overlies gray or dark colored bedrock. In a few areas Aurora soils are adjacent to well drained Lairdsville soils. They are commonly near very deep Conesus, Lima, and Amenia soils. South of the Mohawk River, they are near moderately well drained Cazenovia soils.

Typical pedon of Aurora silt loam, 3 to 8 percent slopes, in the town of Vernon, Oneida County, 2,000 feet north of the intersection of Oneida Road and Clinton Road:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; many fine and medium roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

BA—7 to 10 inches; brown (7.5YR 4/2) silt loam; moderate medium subangular blocky structure; friable; many fine roots; 3 percent rock fragments; moderately acid; abrupt wavy boundary.

B/E—10 to 13 inches; reddish brown (5YR 5/3) silt loam; few medium prominent brownish yellow (10YR 6/6) and common medium distinct yellowish red (5YR 5/6) redoximorphic concentrations; strong coarse subangular blocky structure; friable; few fine roots; few thin patchy clay films in pores and on faces of peds (B part); on faces of peds, brown (10YR 5/3) (moist) and light gray (10YR 7/2) (dry) coatings of silt loam and fine sandy loam 1 millimeter thick (E part); 2 percent rock fragments; moderately acid; gradual wavy boundary.

Bt—13 to 19 inches; reddish brown (5YR 4/3) silt loam; common medium distinct yellowish red (5YR 5/6) redoximorphic concentrations and common medium prominent grayish brown (10YR 5/2) redoximorphic depletions; strong medium subangular blocky structure; friable; few fine roots; common thin patchy clay films in pores and on faces of peds; 2 percent rock fragments; moderately acid; clear wavy boundary.

BC—19 to 22 inches; reddish brown (5YR 5/3) silt loam; common medium distinct yellowish red (5YR 5/6) redoximorphic concentrations and common prominent light gray (10YR 7/2) redoximorphic depletions; moderate medium subangular blocky structure; friable; 2 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—22 inches; red (2.5YR 4/6) shale bedrock; easily cut with a spade in the upper few inches, becoming harder with increasing depth; neutral.

The thickness of the solum (or the depth to bedrock) ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 30 percent, by volume, in the A horizon and from 2 to 35 percent in the subsoil and substratum.

The A or Ap horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 1 through 3. The fine-earth fraction is silt loam or loam. Structure is granular or subangular blocky. Consistence is very friable or friable. Reaction ranges from moderately acid through neutral.

The BA horizon hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is silt loam or loam. Structure is granular or subangular blocky. Consistence is very friable or friable. Reaction ranges from moderately acid through slightly alkaline.

Some pedons have an E horizon. This horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 1 through 3. The fine-earth fraction is silt loam or loam. Structure is subangular blocky or platy. Consistence is friable or firm.

The B/E horizon has colors and textures similar to the respective Bt and E horizons. Some pedons have an E/B horizon.

The Bt horizon has hue of 5YR through 5Y, value of 3 through 5, and chroma of 3 or 4. It has redoximorphic features. The fine-earth fraction is silt loam, silty clay loam, or clay loam. Structure is angular or subangular blocky or prismatic. Consistence is firm through very friable. Reaction ranges from moderately acid through slightly alkaline.

The BC horizon is similar to the Bt horizon, but the clay films are less readily evident. Reaction ranges from moderately acid through slightly alkaline. In some pedons the BC horizon does not occur or is underlain by a C horizon, which is massive or has platy structure.

The 2R layer is dominantly horizontally bedded shale bedrock but includes beds of sandstone, siltstone, or limestone.

Becket Series

The Becket series consists of very deep, well drained soils on side slopes and hilltops on upland till plains in the Adirondack foothills and the northeastern part of the county. These soils formed in a friable, loamy mantle that overlies dense, sandy glacial till. Slopes range from 3 to 35 percent.

Becket soils are commonly adjacent to and form a drainage sequence with moderately well drained Skerry soils and somewhat poorly drained Adirondack soils. Somewhat excessively drained Adams soils are on nearby outwash plains, terraces, and lake plains. Moderately deep Tunbridge soils and shallow Lyman soils are on adjacent bedrock-controlled uplands. In some areas Becket soils are mapped in a complex with Skerry or Tunbridge soils.

Typical pedon of Becket fine sandy loam, in a wooded area of Becket-Skerry complex, 3 to 8 percent slopes, very bouldery, in the town of Forestport, Oneida County, 90 feet west of Route 28 and 70 feet north of a foot trail leading to the Moose River:

Oa—0 to 1 inch; black (7.5YR 2.5/1), highly decomposed plant material having 50 percent mineral silts; 25 percent fibers unrubbed, 5 percent fibers rubbed; moderate fine granular structure; many fine and medium roots; 10 percent rock fragments, including about 3 percent boulders on the surface; very strongly acid; abrupt smooth boundary.

Bh—1 to 3 inches; dusky red (2.5YR 3/2) fine sandy loam; in the uppermost part of the horizon, a very thin and discontinuous remnant of an E horizon consisting of brown (7.5YR 5/2) fine sandy loam; weak medium subangular blocky structure parting to moderate fine granular; friable; many fine and common medium and coarse roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bs—3 to 16 inches; dark brown (7.5YR 3/4) fine sandy loam; weak medium subangular blocky structure parting to weak fine granular; very friable; many fine and few medium and coarse roots; 10 percent rock fragments; very strongly acid; gradual wavy boundary.

BC1—16 to 24 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable; many fine and few medium and coarse roots; 10 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; very strongly acid; gradual irregular boundary.

BC2—24 to 34 inches; brown (10YR 4/3) gravelly fine sandy loam; few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations; weak fine and medium subangular blocky structure; friable; common fine and few medium roots; 15 percent rock fragments; strongly acid; clear irregular boundary.

Cd1—34 to 41 inches; grayish brown (10YR 5/2) gravelly loamy sand with common lenses of fine sandy loam and sandy loam and dark grayish brown (10YR 4/2) parts; massive with weak thin and medium platelike divisions; strong brown (7.5YR 5/8) redoximorphic concentrations occurring as thin sandy lenses on some plate surfaces (indicating lateral water movement); firm; few fine roots in the upper part of the horizon; 20 percent rock fragments; strongly acid; gradual wavy boundary.

Cd2—41 to 72 inches; grayish brown (10YR 5/2) gravelly loamy sand; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; massive with moderate thin and medium platelike divisions; firm; 25 percent rock fragments; strongly acid.

The thickness of the solum ranges from 18 to 36 inches. The depth to dense till ranges from 24 to 36 inches. Reaction ranges from extremely acid through slightly acid in the solum and from very strongly acid through neutral in the substratum. The content of rock fragments, dominantly gravel, ranges from 5 to 30 percent, by volume, in the solum and from 5 to 40 percent in the substratum. The total content of rock fragments is less than 35 percent in the particle-size control section. Ortstein material occurs in some pedons, but it makes up less than 20 percent of the volume of any spodic horizon.

The O horizon is neutral in hue or has hue of 5YR through 10YR. It has value of 2 through 4 and chroma of 0 through 4.

Some pedons have an A horizon, which is as much as 5 inches thick. This horizon has hue of 5YR through 10YR, value of 2 through 4, and chroma of 1 through 3. Pedons in a few disturbed areas have an Ap horizon, which has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction is dominantly fine sandy loam but in some pedons is loam or sandy loam. Structure is granular.

Some pedons have an E horizon. This horizon has hue of 5YR through 2.5Y, value of 4 through 7, and chroma of 1 or 2. The fine-earth fraction is fine sandy loam, sandy loam, or loamy sand. Structure is granular or subangular blocky, or the horizon is massive.

The Bh horizon has hue of 2.5YR through 10YR, value of 2 or 3, and chroma of 1. The fine-earth fraction is dominantly fine sandy loam but in some pedons is loam or sandy loam.

The Bs horizon has hue of 2.5YR through 10YR and value and chroma of 3 through 8. The fine-earth fraction is fine sandy loam or sandy loam. Structure is granular or subangular blocky, or the horizon is massive.

The BC horizons have hue of 10YR through 5Y and value and chroma of 3 through 6. The fine-earth fraction is fine sandy loam, sandy loam, loamy fine sand, or loamy sand. Structure is granular, platy, or subangular blocky, or the horizon is massive.

The Cd horizons have hue of 10YR through 5Y, value of 4 through 7, and chroma of 2 through 6. They are massive but commonly have weak or moderate, thin through thick platelike divisions. Consistence is firm or very firm. The fine-earth fraction is loamy sand or loamy fine sand, or it consists of loamy layers and sandy lenses and/or pockets with horizontal orientation, with a composite texture of loamy sand, loamy fine sand, sandy loam, or fine sandy loam. The lenses are coarse, medium, or fine sand and are $^{1}/_{8}$ inch to 3 inches thick. They make up 20 percent or more of the horizon.

Some pedons have friable C horizons as much as 8 inches thick.

Berkshire Series

The Berkshire series consists of very deep, well drained soils on broad plains and on side slopes and hilltops on glacial uplands in the Adirondack foothills in the northeastern part of the county. These soils formed in ablation till. Slopes range from 3 to 15 percent.

Berkshire soils are commonly adjacent to Becket soils, which formed in friable, loamy material over firm basal till. Somewhat excessively drained Adams soils also are near Berkshire soils. They formed in deltaic and outwash deposits and have a sandy substratum.

Typical pedon of Berkshire fine sandy loam, 3 to 8 percent slopes, in the town of Forestport, Oneida County, 1,320 feet north and 1,320 feet east of the intersection of Route 28 and Bear Creek Road (hamlet of Woodgate):

Oe—0 to 1 inch; moderately decomposed root and leaf litter.

Ap—1 to 6 inches; dark brown (7.5YR 3/3) fine sandy loam; weak fine granular structure; very friable; many very fine, fine, and medium roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

E—6 to 8 inches; reddish gray (5YR5/2) sandy loam; weak fine granular structure; very friable; many very fine and fine and common medium roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bhs—8 to 9 inches; dark reddish brown (5YR 3/2) sandy loam; weak fine granular structure; friable; many very fine and fine roots; 10 percent rock fragments; very strongly acid; clear wavy boundary.

Bs1—9 to 14 inches; dark brown (7.5YR 3/4) sandy loam; weak medium subangular blocky structure; friable; common fine roots; 10 percent rock fragments; strongly acid; gradual wavy boundary.

Bs2—14 to 21 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; strongly acid; gradual smooth boundary.

C—21 to 72 inches; brown (10YR 4/3) gravelly sandy loam; massive; friable; 20 percent rock fragments; strongly acid.

The thickness of the solum ranges from 16 to 36 inches. The depth to bedrock is more than 72 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, throughout the profile. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

The Ap horizon has hue of 5YR through 10YR and value and chroma of 2 through 4. The fine-earth fraction is loam, very fine sandy loam, fine sandy loam, or sandy loam. Some pedons have an A horizon, which is as much as 5 inches thick. This horizon is neutral in hue or has hue of 5YR through 10YR. It has value of 2 or 3 and chroma of 0 through 3.

The E horizon is neutral in hue or has hue of 2.5YR through 2.5Y. It has value of 4 through 6 and chroma of 0 through 2. The fine-earth fraction is loam, very fine sandy loam, fine sandy loam, or sandy loam.

The Bhs horizon has hue of 2.5YR through 7.5YR and value and chroma of 2 or 3. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, or loam. Structure is weak granular or subangular blocky.

The Bs horizons have hue of 5YR through 10YR, value of 3 through 5, and chroma of 4 through 8. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, or loam.

Some pedons have a BC horizon. This horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2 through 4. The fine-earth fraction is loam, very fine sandy loam, fine sandy loam, or sandy loam.

The C horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 2 through 6. The fine-earth fraction is loam, very fine sandy loam, fine sandy loam, or sandy loam.

Bice Series

The Bice series consists of very deep, well drained soils on side slopes and hilltops on till plains in the uplands. These soils occur throughout the northern part of the county, mostly at an elevation of more than 1,000 feet. They formed in glacial till derived from gneiss and granite with variable components of sandstone and shale. Slopes range from 3 to 50 percent.

In the northwestern and north-central parts of the county, Bice soils are commonly near well drained Worth soils, moderately well drained Empeyville soils, somewhat poorly drained Westbury soils, and poorly drained Dannemora soils, all of which have a fragipan. Bice soils are commonly adjacent to well drained Pyrities and somewhat poorly drained Malone soils in areas where the parent material is less acid. In areas having a dense fragipan in the subsoil and a higher content of shale, Bice soils are near moderately well drained Pinckney soils, somewhat poorly drained Camroden soils, and poorly drained Marcy soils. In the northeastern part of the county, Bice soils are adjacent to somewhat excessively drained Adams soils on outwash plains. Very poorly drained Tughill and Wonsqueak soils are in some nearby depressions throughout the northern part of the county. Slightly warmer Chadakoin soils are adjacent to Bice soils in some areas along the soil temperature boundary of mesic soils.

Typical pedon of Bice fine sandy loam, 8 to 15 percent slopes, in the town of Florence, Oneida County, 2.1 miles west of Forty Six Corners and Houlahan Road, 0.25 mile south of Houlahan Road, and 120 feet east of a trail through a red pine plantation:

Oi—0 to 1 inch; slightly decomposed pine needles, leaves, and twigs; abrupt smooth boundary.

Oa—1 to 2 inches; black (10YR 2/1), highly decomposed organic material derived from leaves, pine needles, twigs, and roots; extremely acid; abrupt smooth boundary.

Ap—2 to 9 inches; dark yellowish brown (10YR 3/4) fine sandy loam; weak fine granular structure; very friable; many medium and fine roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.
Bw1—9 to 20 inches; strong brown (7.5YR 5/6) fine sandy loam; moderate fine and medium subangular blocky structure; friable; common fine and medium and few coarse roots; 7 percent rock fragments; very strongly acid; clear wavy boundary.
Bw2—20 to 30 inches; strong brown (7.5YR 4/6) very fine sandy loam; weak fine and medium subangular structure; friable; common fine and medium and few coarse roots; 10 percent rock fragments; very strongly acid; gradual smooth boundary.
C1—30 to 40 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; massive; firm; common fine tubular and vesicular pores; 20 percent rock fragments; very strongly acid; clear wavy boundary.
C2—40 to 72 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; few thin, discontinuous clay films in pores and on some faces of peds; common fine vesicular and few tubular pores; 22 percent rock fragments; strongly acid.

The thickness of the solum ranges from 20 to 36 inches. The depth to bedrock is more than 72 inches. The content of rock fragments ranges from 5 to 25 percent, by volume, throughout the profile. Reaction ranges from very strongly acid through moderately acid throughout the profile.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction ranges from fine sandy loam through silt loam. Pedons in unplowed areas have a thin A horizon. This horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2.

The Bw1 horizon has hue of 7.5YR or 10YR and value and chroma of 3 through 6. The fine-earth fraction ranges from coarse sandy loam through silt loam. The Bw2 horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 3 through 6. The fine-earth fraction ranges from sandy loam through loam. Structure of the Bw horizons is weak granular or weak or moderate subangular blocky. Some pedons have a BC horizon, which is similar to the Bw2 horizon.

The C horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction is sandy loam, fine sandy loam, or loam. In some pedons the horizon has lenses or pockets of coarse sand. It is massive or has weak platy structure. Consistence is friable or firm. In some pedons discoloration occurs below a depth of 30 inches.

Borosaprists

Borosaprists are very deep, very poorly drained soils that in many areas are adjacent to natural or artificial lakes, rivers, ponds, or other bodies of water. Areas of these soils are sometimes called freshwater marshes. The soils formed in black, well decomposed herbaceous and woody plant remains. They are ponded by shallow water throughout much of the year. Slopes range from 0 to 2 percent.

Borosaprists are intermingled with flood-prone Fluvaquents and poorly drained Wayland soils along streams and rivers. Very poorly drained Halsey and somewhat poorly drained Fredon soils are nearby mineral soils. Borosaprists are associated with other organic soils, such as Wonsqueak, Dawson, and Greenwood soils. On uplands, they are associated with mineral soils that formed in glacial till, such as poorly drained Dannemora, Runeberg, and Marcy soils; somewhat poorly Naumburg soils; and very poorly drained Tughill soils.

Idealized pedon of Borosaprists, in the town of Forestport, Oneida County, about 3,000 feet northwest of the intersection of Smith Road and Buck Lake Road, 1,600 feet west of Buck Lake Road, and 2,150 feet south of Buck Lake:

Oa1—0 to 10 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); moderate fine and medium granular structure; very friable; 10 percent fibers unrubbed, 5 percent fibers rubbed; many fine, medium, and coarse roots; very strongly acid; clear smooth boundary.
Oa2—10 to 20 inches; black (10YR 2/1) (broken face) and black (5YR 2.5/1) (rubbed) sapric material (muck); moderate medium and coarse blocky structure; very friable; 25 percent fibers unrubbed, 5 percent fibers rubbed; many fine, medium, and coarse roots; very strongly acid; abrupt smooth boundary.
Oa3—20 to 51 inches; dark reddish brown (5YR 3/3) (broken face) and dark reddish brown (5YR 2.5/2) (rubbed and pressed) sapric material (muck); about 40 percent fibers undisturbed, 8 percent fibers rubbed; primarily sphagnum moss fibers; some partially decomposed woody fragments; massive; very friable; many fine and very fine roots; extremely acid; abrupt smooth boundary.
C—51 to 72 inches; strong brown (7.5YR 4/6) loamy sand; single grain; very strongly acid.

The upper part of the Borosaprists has well decomposed organic material more than 16 inches thick. The soils are ponded for more than 6 months of the year. A fluctuating water table during the drier parts of the year allows aerobic decomposition of the organic matter.

The organic material has hue of 5YR through 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. It consists of well decomposed, woody or herbaceous plant remains with less than 15 percent fibers after rubbing. Reaction ranges from extremely acid through slightly acid.

The C horizon has hue of 5YR through 5Y or is neutral in hue. It has value of 2 through 6 and chroma of 0 through 4. The fine-earth fraction ranges from loamy sand through silty clay. The horizon may have the gravelly or very gravelly analogs of those textures. The content of rock fragments ranges from 0 to 60 percent, by volume. Reaction ranges from very strongly acid through moderately alkaline, and in some pedons the horizon is effervescent.

Camroden Series

The Camroden series consists of very deep, somewhat poorly drained soils on broad glacial till uplands. These soils occur in the north-central part of the county, east of the East Branch of Fish Creek, and are mostly at an elevation of more than 1,000 feet. They formed in firm glacial till derived mainly from shale and siltstone. The subsoil has a dense fragipan at a depth of 14 to 21 inches. Slopes range from 0 to 15 percent.

Camroden soils are in a drainage sequence with moderately well drained Pinckney soils and poorly drained Marcy soils. Well drained Bice soils are in nearby areas. They do not have a fragipan. Camroden soils are near Malone soils in areas where the glacial till is higher in content of lime. Westbury soils bordering Camroden soils west of the East Branch of Fish Creek formed in glacial till derived primarily from sandstone.

Typical pedon of Camroden silt loam, 3 to 8 percent slopes, in the town of Ava, Oneida County, 2,200 feet northeast of the intersection of Flint Road and Kerber Road and 400 feet west of Kerber Road, along a hedgerow:

Ap—0 to 5 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; very few coarse and many fine roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.
Bw1—5 to 16 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; very friable; common fine, few medium, and

very few coarse roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.

Bw2—16 to 19 inches; brown (10YR 5/3) channery silt loam; common medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations and common medium faint light brownish gray (10YR 6/2) redoximorphic depletions; weak medium and coarse subangular blocky structure; friable; few fine roots; 15 percent rock fragments; very strongly acid; clear wavy boundary.

Bx—19 to 42 inches; brown (10YR 4/3) channery silt loam; common fine faint yellowish brown (10YR 5/4) redoximorphic concentrations; light brownish gray (2.5Y 6/2) prism interiors and strong brown (7.5YR 5/6) borders on the prisms; weak very coarse prismatic structure and, within prisms, weak medium and coarse subangular blocky structure that becomes massive in the lower part of the horizon; very firm; common fine roots in the upper part of the horizon and few fine roots along faces of prisms in the lower part; common fine vesicular and few fine tubular pores; 15 percent rock fragments; strongly acid; gradual smooth boundary.

Cd—42 to 72 inches; dark grayish brown (2.5Y 4/2) channery silt loam; massive; firm; 20 percent rock fragments, including 5 percent fragments more than 3 inches in diameter; moderately acid.

The thickness of the solum ranges from 35 to 62 inches. Carbonates occur in the lower part of the substratum in some pedons. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 14 to 21 inches. The content of rock fragments ranges from 3 to 25 percent, by volume, above the fragipan and from 5 to 35 percent in the fragipan and substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is loam or silt loam. Structure is weak or moderate, fine or medium, granular or subangular blocky. Consistence is friable or very friable. Reaction ranges from very strongly acid through moderately acid, unless the soils have been limed.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is very weak through moderate subangular blocky or granular. Consistence is friable or very friable. Reaction ranges from very strongly acid through moderately acid.

The Bx horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is coarse or very coarse prismatic and is massive or subangular blocky within prisms. Consistence is firm through extremely firm, and the horizon is slightly brittle or brittle. The horizon has common or many redoximorphic features. Reaction ranges from strongly acid through slightly acid. Some pedons have an E horizon above the fragipan.

The Cd horizon is similar to the Bx horizon in color and texture, but it is less brittle and has fewer redoximorphic features. Structure is platy, or the horizon is massive. Consistence is firm or very firm. Reaction ranges from moderately acid through slightly alkaline.

Canandaigua Series

The Canandaigua series consists of very deep, poorly drained or very poorly drained soils on glacial lake plains and in depressional areas on glaciated uplands. These soils are dominantly poorly drained and formed in silty glaciolacustrine sediments. Slopes range from 0 to 3 percent.

Canandaigua soils form a drainage sequence with moderately well drained Collamer and somewhat poorly drained Niagara soils in the higher landscape positions. Canandaigua soils are commonly adjacent to Lamson soils, which are more sandy than the Canandaigua soils. Canandaigua soils are near very poorly drained Palms soils, which have organic deposits between 16 and 51 inches thick.

Typical pedon of Canandaigua silt loam, in the town of Verona, Oneida County, 800 feet west of Miller Road and 2,800 feet south of Route 31:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine and fine roots; 1 percent rock fragments; neutral; abrupt wavy boundary.

Bg1—8 to 16 inches; reddish gray (5YR 5/2) very fine sandy loam; many medium prominent light yellowish brown (2.5Y 6/4) redoximorphic concentrations, common medium prominent light brownish gray (2.5Y 6/2) redoximorphic depletions, and many fine and medium prominent strong brown (7.5YR 5/6 and 5/8) redoximorphic concentrations; very dark gray (10YR 3/1) organo-argillans in root channels; moderate fine and medium subangular blocky structure; friable; few fine roots; many fine tubular pores; thin continuous clay skins lining pores; 2 percent rock fragments; neutral; clear smooth boundary.

Bg2—16 to 21 inches; reddish gray (5YR 5/2) silt loam; many fine prominent dark yellowish brown (10YR 4/4) and strong brown (7.5YR 5/6) and common fine distinct brown (7.5YR 5/4) redoximorphic concentrations; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; very few fine roots; many fine tubular pores; thin patchy clay skins lining pores; light brownish gray (2.5Y 6/2) ped faces and pore linings; neutral; clear smooth boundary.

Bg3—21 to 34 inches; brown (7.5YR 5/2) silty clay loam; many medium distinct dark yellowish brown (10YR 4/4) redoximorphic concentrations; weak coarse prismatic structure parting to weak coarse subangular; firm; very few fine roots; many fine tubular pores; thin patchy clay skins lining pores; gray (10YR 6/1) and light brownish gray (10YR 6/2) ped interiors and gray (2.5Y 6/1) faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.

C1—34 to 40 inches; gray (5YR 6/1) silty clay loam; common medium prominent light olive brown (2.5Y 5/4) and many fine and medium prominent dark yellowish brown (10YR 4/4) redoximorphic concentrations; massive; firm; few fine tubular pores; gray (2.5Y 6/1) pore linings; strongly effervescent; slightly alkaline; clear smooth boundary.

C2—40 to 72 inches; reddish brown (5YR 5/3) silt loam; common medium distinct gray (7.5YR 6/1) redoximorphic depletions and common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; massive; friable; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 40 inches. The depth to free carbonates commonly ranges from 18 to 60 inches, but some pedons do not have carbonates within a depth of 80 inches. Rock fragments commonly do not occur, but the content of these fragments is as much as 10 percent, by volume, in subhorizons of some pedons and is as much as 30 percent below a depth of 40 inches in some pedons.

The Ap horizon has hue of 5YR through 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. The fine-earth fraction is silt loam, very fine sandy loam, loam, or fine sandy loam. Structure is granular or subangular blocky. Reaction ranges from moderately acid through slightly alkaline.

The Bg horizons have hue of 5YR through 5GY or are neutral in hue. They have value of 4 through 7 and chroma of 0 through 2. The fine-earth fraction generally is silt loam, very fine sandy loam, or silty clay loam. In some pedons thin subhorizons have lighter or heavier textures. Structure is very fine through coarse, subangular or angular blocky, either primary or within coarse or very coarse prisms. Consistence is friable through very firm. The horizons have common or many redoximorphic accumulations. Reaction ranges from moderately acid through slightly alkaline.

Some pedons have a BCg horizon, which is similar to the Bg horizons, except for the presence of free carbonates in many pedons. Structure generally is weaker and may be platy.

The Cg or C horizons have hue of 5YR through 5G or are neutral in hue. They have value of 3 through 6 and chroma of 0 through 3. The horizon consists of thin strata ranging from fine sand through silty clay to a depth of least 40 inches. Below a depth of 40 inches, some pedons have loamy, nonstratified 2C and 3C horizons. Reaction ranges from slightly acid through moderately alkaline.

Carlisle Series

The Carlisle series consists of very deep, very poorly drained soils in bogs and depressional areas on lake plains, outwash plains, till plains, moraines, and flood plains. These soils formed in organic material more than 51 inches thick. Slopes range from 0 to 2 percent.

Carlisle soils are commonly adjacent to Palms soils, which formed in organic deposits that are 16 and 51 inches deep over loamy material. Carlisle soils are adjacent to poorly drained, mineral Lyons and Chippewa soils, which do not have the organic deposits characteristic of Carlisle soils. In a few areas, Carlisle soils are on landscapes similar to those of Wonsqueak soils, which have organic deposits less than 51 inches thick and occur in the colder parts of the county.

Typical pedon of Carlisle muck, in the city of Rome, Oneida County, 1.2 miles east of the intersection of James Street and a railroad and 1,000 feet north of the railroad:

Oa1—0 to 10 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); moderate fine and medium granular structure; very friable, nonsticky, slightly plastic; 10 percent fibers unrubbed, 5 percent fibers rubbed; rubbed fibers are black (10YR 2/1); many fine, medium, and coarse roots; common weakly decomposed wood fragments; neutral; gradual smooth boundary.

Oa2—10 to 18 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); moderate medium and coarse blocky structure; friable, nonsticky, slightly plastic; 15 percent fibers unrubbed, 5 percent fibers rubbed; rubbed fibers are black (5YR 2.5/1); many fine, medium, and coarse roots; some weakly decomposed wood fragments; neutral; abrupt smooth boundary.

Oa3—18 to 51 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); weak coarse subangular blocky structure; friable, nonsticky, slightly plastic; 20 percent fibers unrubbed, 3 percent fibers rubbed; rubbed fibers are black (5YR 2.5/1); common fine and medium roots in the upper part of the horizon; neutral; clear smooth boundary.

Oa4—51 to 54 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); massive; friable, slightly sticky, slightly plastic; 25 percent fibers unrubbed, 3 percent fibers rubbed; rubbed fibers are black (5YR 2.5/1); neutral; abrupt smooth boundary.

C—54 to 72 inches; reddish gray (5YR 5/2) silty clay loam; few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations and few medium distinct gray (10YR 6/1) redoximorphic depletions; very weak coarse prismatic structure; friable; neutral.

The organic deposits are more than 51 inches thick. In some pedons woody fragments consisting of twigs, branches, logs, and stumps are throughout the profile. The fragments are $^{1}/_{4}$ to more than 1 foot in diameter. The content of these fragments averages from 15 to 30 percent, by volume, in the control section. Reaction ranges from very strongly acid through slightly alkaline throughout the organic layers.

The surface tier has hue of 5YR through 10YR or is neutral in hue. It has value of 1 or 2 and chroma of 0 through 2. It is dominantly muck (sapric material). In some pedons it is mucky peat (hemic material), and in others it has various proportions of both muck and mucky peat. Structure is weak or moderate, fine through coarse, granular or subangular blocky.

The subsurface tier has hue of 5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 4. It is dominated by sapric material with a rubbed fiber content of less than 16 percent of the organic volume. Structure is granular or blocky, or the horizon is massive. Typically, the upper part of the horizon has weak or moderate granular or blocky structure, and the lower part is massive. Aggregates in this tier are quite firm but break abruptly under pressure.

The bottom tier is similar to the subsurface tier in color. It has variable amounts of woody and herbaceous layers, but herbaceous fibers generally make up the greater proportion. The tier is generally massive but in some pedons has weak coarse blocky or thick platy structure.

The subsurface and bottom tiers are dominantly muck (sapric material), but some pedons have thin layers of mucky peat (hemic material). The combined thickness of the layers of mucky peat is less than 10 inches.

The C horizon is neutral in hue or has hue of 10YR, 2.5Y, 5Y, or 5GY. It has value of 3 through 7 and chroma of 0 through 4. The fine-earth fraction generally is loamy very fine sand, sandy loam, fine sandy loam, loam, silt loam, silty clay loam, clay loam, or sandy clay loam. The horizon may have the gravelly analogs of those textures. In some pedons it has thin strata of fine sand, loamy sand, or silt. Reaction ranges from slightly acid through slightly alkaline. The content of rock fragments (gravel to stones) ranges from 0 to 25 percent, by volume. In some pedons the horizon has free carbonates.

Castile Series

The Castile series consists of very deep, moderately well drained soils on valley floors and low terraces. These soils formed in gravelly outwash. Slopes range from 0 to 3 percent.

Castile soils are in a drainage sequence with well drained or somewhat excessively drained Chenango and Alton soils. Somewhat poorly drained Fredon soils are adjacent to Castile soils in depressional areas and on the flatter parts of the landscape. Well drained Hamlin soils and somewhat poorly drained Wakeville soils, which formed in silty material, are on adjacent flood plains.

Typical pedon of Castile gravelly loam, in the town of Annsville, Oneida County, 300 feet north of Mill Road and 1,000 feet west of Halzinger Road:

Ap—0 to 8 inches; brown (10YR 4/3) gravelly loam; weak medium granular structure; friable; many fine and medium roots; 15 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—8 to 19 inches; dark yellowish brown (10YR 4/4) gravelly loam; moderate medium granular structure; friable; many fine and common medium roots; 25 percent rock fragments; moderately acid; clear smooth boundary.

Bw2—19 to 28 inches; yellowish brown (10YR 5/4) gravelly loam; common medium distinct gray (10YR 5/1) redoximorphic depletions and yellowish brown (10YR 5/6) redoximorphic concentrations; weak fine and medium subangular blocky structure; friable; few fine and medium roots; 34 percent rock fragments; moderately acid; clear smooth boundary.

C—28 to 72 inches; grayish brown (10YR 5/2) very gravelly loam; massive; friable; few roots; 50 percent rock fragments; moderately acid.

The thickness of the solum ranges from 24 to 40 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 15 to 30 percent, by volume, in the surface layer, 20 to 60 percent in the subsoil, and 35 to 70 percent in the substratum. The rock fragments are dominantly gravel but include as much as 10 percent cobblestones and flagstones. Reaction ranges from very strongly acid through moderately acid in the solum and from strongly acid through neutral in the C horizon. The depth to carbonates ranges from 5 to 10 feet.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate granular.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 3 or 4 and have redoximorphic features in some part. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate granular or subangular blocky. Consistence is very friable through firm.

Some pedons have a BC horizon. This horizon has hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. It is similar to the Bw horizons in texture, structure, and consistence.

The C or 2C horizon has hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction generally ranges from loamy sand through loam. In some pedons the horizon is stratified sand and gravel.

Cazenovia Series

The Cazenovia series consists of very deep, moderately well drained soils on glacial till uplands. These soils are dominantly moderately well drained and formed in till derived mainly from red shale and limestone and in small amounts of lacustrine material in some areas. Slopes range from 3 to 45 percent.

Cazenovia soils are commonly adjacent to or form a drainage sequence with somewhat poorly drained Ovid soils. They also are adjacent to well drained Honeoye soils and moderately well drained Lima soils. They are generally deeper to carbonates and have more clay than Honeoye and Lima soils. In some areas Cazenovia soils are adjacent to Lansing soils. They are redder and have more clay in the subsoil than Lansing soils. Cazenovia soils are near somewhat poorly drained Ovid soils in depressions and in concave or flatter areas.

Typical pedon of Cazenovia silt loam, 3 to 8 percent slopes, in the town of Paris, Oneida County, 1,000 feet west of the intersection of Paris Hill Road and Oneida Street and 1,000 feet south of Paris Hill Road:

Ap—0 to 7 inches; dark brown (7.5YR 3/2) silt loam, pinkish gray (7.5YR 6/2) dry; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and very fine roots; 3 percent rock fragments (less than 1 percent cobbles and stones); neutral; abrupt smooth boundary.

E—7 to 10 inches; brown (7.5YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and very fine roots; 5 percent rock fragments (less than 1 percent cobbles and stones); neutral; abrupt smooth boundary.

B/E—10 to 16 inches; reddish brown (5YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and very fine roots; common fine pores; thin, continuous clay flows in pores and patchy clay films on faces of peds (B part), light reddish brown (5YR 6/3) moist; pinkish gray (5YR 7/2) (dry) silt coatings, 1 to 2 millimeters thick, on faces of peds (E part); 10 percent rock fragments (less than 1 percent cobbles and stones); neutral; gradual wavy boundary.

Bt—16 to 22 inches; reddish brown (5YR 4/3) gravelly silty clay loam; few fine distinct yellowish red (5YR 5/6) redoximorphic concentrations; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; many very fine roots; many distinct clay flows lining pores and on faces of peds; 15 percent rock fragments (less than 1 percent cobbles and stones); neutral; clear wavy boundary.

C—22 to 72 inches; reddish brown (5YR 4/3) gravelly silty clay loam; few fine distinct yellowish red (5YR 5/6) redoximorphic concentrations; massive; firm, slightly sticky, slightly plastic; few very fine roots; 20 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 45 inches. The depth to carbonates ranges from 18 to 45 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 2 to 25 percent, by volume, in the solum and from 10 to 40 percent in the C horizon. The rock fragments are dominantly gravel and cobbles but also include some stones and channers.

The Ap horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from moderately acid through neutral. Plowing has incorporated the E horizon and part of the B/E horizon into the Ap horizon in some pedons.

The E horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction is fine sandy loam, loam, or silt loam. Structure is weak or moderate granular or subangular blocky.

The B/E horizon has colors similar to those of the Bt and E horizons, respectively.

The Bt horizon has hue of 2.5YR through 7.5YR, value of 3 through 5, and chroma of 3 or 4. In some pedons it has faint or distinct redoximorphic features. The fine-earth fraction generally is clay loam or silty clay loam with 28 to 35 percent clay, but some pedons have subhorizons of silty clay. Structure is moderate or strong, medium or coarse, blocky or subangular blocky or is very coarse prismatic. Consistence is friable or firm. Reaction ranges from moderately acid through neutral in the upper part of the horizon, and pH increases with increasing depth. In some pedons carbonates are in the lower part of the horizon.

Some pedons have a BC horizon. This horizon has hue of 2.5YR through 7.5YR, value of 3 through 5, and chroma of 2 through 4. It is clay loam or silty clay loam in the fine-earth fraction. Structure is moderate or strong, medium or coarse, blocky or subangular blocky or is very coarse prismatic. Consistence is firm or very firm. Reaction ranges from neutral through moderately alkaline.

The C or Cd horizon has hue of 2.5YR through 7.5YR, value of 3 through 5, and chroma of 2 through 4. In some pedons it has redoximorphic features. The fine-earth fraction ranges from loam through silty clay loam. The horizon is massive or has platy structure. Consistence is firm or very firm. Reaction ranges from neutral through moderately alkaline.

Chadakoin Series

The Chadakoin series consists of very deep, well drained soils on glaciated hilltops and side slopes in the uplands. These soils formed in till derived mainly from sandstone and siltstone and from smaller amounts of shale. Slopes range from 3 to 45 percent.

Chadakoin soils commonly are near moderately well drained Mardin and somewhat poorly drained Venango soils, which have a dense fragipan. Chadakoin soils are near moderately deep Manlius soils. Pittsfield soils are on nearby landforms. They are higher in reaction than the Chadakoin soils. Along the frigid soil temperature regime boundary, Chadakoin soils are near the colder Bice soils.

Typical pedon of Chadakoin silt loam, 8 to 15 percent slopes, in the town of Bridgewater, Oneida County, 50 feet north of White Street and 150 yards east of Janus Road:

Oa—0 to 1 inch; dark reddish brown (5YR 2.5/2), highly decomposed plant material; 20 percent fibers unrubbed, 5 percent fibers rubbed; weak fine and medium granular structure; very friable; many very fine and fine, common medium, and few coarse roots; extremely acid; clear smooth boundary.

A—1 to 6 inches; dark brown (10YR 3/3) silt loam, light brownish gray (10YR 6/2) dry; moderate medium subangular blocky structure parting to moderate medium granular; very friable; many fine, common medium, and few coarse roots; 5 percent rock fragments; extremely acid; clear smooth boundary.

Bw1—6 to 10 inches; strong brown (7.5YR 5/6) silt loam; weak fine and medium subangular blocky structure parting to moderate fine and medium granular; very friable; many fine, common medium, and few coarse roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—10 to 27 inches; yellowish brown (10YR 5/6) channery silt loam; moderate medium and coarse subangular blocky structure; friable; common fine and medium and few coarse roots; 15 percent rock fragments; very strongly acid; gradual wavy boundary.

Bw3—27 to 32 inches; yellowish brown (10YR 5/4) channery silt loam; very weak very coarse prismatic structure parting to weak medium and fine subangular blocky; friable; common medium distinct light brownish gray (2.5Y 6/2) redoximorphic depletions and common medium distinct strong brown (7.5YR 5/6) redoximorphic concentrations; pale brown (10YR 6/3) silt coatings on a few faces of peds; common fine tubular and many fine vesicular pores; common fine roots; 20 percent rock fragments; very strongly acid; clear irregular boundary.

BC—32 to 43 inches; brown (10YR 4/3) channery loam; weak very coarse prismatic structure parting to weak medium and coarse subangular blocky; friable; few fine roots; 33 percent rock fragments, including 5 percent rock fragments more than 3 inches in diameter; very strongly acid; gradual wavy boundary.

CB—43 to 60 inches; dark grayish brown (2.5Y 4/2) very channery loam; weak very coarse prismatic structure; firm; common fine and medium distinct dark grayish brown (10YR 4/2) redoximorphic depletions and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations; very thin light brownish gray (2.5Y 6/2) and light yellowish brown (2.5Y 6/4) ped interiors and very thin strong brown (7.5YR 5/6) ped face exteriors; common fine vesicular pores; 40 percent rock fragments, including 15 percent rock fragments more than 3 inches in diameter; strongly acid; clear smooth boundary.

C—60 to 72 inches; dark grayish brown (10YR 4/2) very channery silt loam; weak very coarse prismatic structure parting to weak medium and thick platy; firm; many coarse prominent yellowish brown (10YR 5/8) redoximorphic concentrations; common fine vesicular and tubular pores; 40 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; moderately acid.

The thickness of the solum ranges from 30 to 50 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mainly gravel and channers, ranges from 5 to 35 percent, by volume, in the upper part of the solum, from 15 to 50 percent in the lower part of the solum, and from 20 to 65 percent in the substratum.

The O horizon, where present, has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 or 2. Reaction ranges from extremely acid through moderately acid.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 through 4. The fine earth-fraction is silt loam or loam. Reaction ranges from extremely acid through moderately acid.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 3 through 6. In some pedons the lower Bw horizons have redoximorphic features. The fine-earth fraction is silt loam, loam, or fine sandy loam. Structure is subangular blocky, prismatic, or granular. Consistence is very friable or friable. Reaction ranges from very strongly acid through moderately acid.

The BC horizon has hue, value, and chroma similar to those of the B horizon. The fine-earth fraction is sandy loam, loam, or silt loam. Structure is weak fine or medium subangular blocky, coarse or very coarse prismatic, or thick or very thick platy. Consistence is friable or firm. Reaction ranges from very strongly acid through moderately acid.

The CB horizon hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is sandy loam, loam, or silt loam. The horizon is massive or has prismatic or platy structure. Consistence is friable or firm. Reaction ranges from strongly acid through slightly acid.

The C horizon has hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is sandy loam, loam, or silt loam. The horizon is massive or has prismatic or platy structure. Consistence is friable or firm. Reaction ranges from strongly acid through slightly acid.

Chenango Series

The Chenango series consists of very deep, somewhat excessively drained or well drained soils on outwash plains and terraces and in areas of water-sorted moraine deposits. These soils are dominantly somewhat excessively drained. Slopes range from 0 to 45 percent.

Chenango soils are commonly adjacent to and form a drainage sequence with moderately well drained Castile and somewhat poorly drained Fredon soils. They are near Howard, Knickerbocker, Alton, and Colton soils. Chenango soils have a lower content of limestone fragments than Alton and Howard soils. They are in warmer areas than Colton soils. Knickerbocker soils have fewer rock fragments in the lower part of the subsoil and in the substratum than the Chenango soils.

Typical pedon of Chenango gravelly silt loam, 3 to 8 percent slopes, in the town of Annsville, Oneida County, 100 feet east of Coal Hill Road and 200 feet north of Palmer Road:

Ap—0 to 7 inches; dark brown (10YR 3/3) gravelly silt loam; weak fine granular structure; friable; many fine roots; 15 percent rock fragments; slightly acid (limed); abrupt smooth boundary.

Bw1—7 to 13 inches; yellowish brown (10YR 5/6) gravelly very fine sandy loam; very dark grayish brown (10YR 3/2) organo-argillans in root channels; moderate fine and medium subangular blocky structure; friable; many fine roots; many fine and few medium pores; 20 percent rock fragments, including 5 percent rock fragments more than 3 inches in diameter; moderately acid; clear smooth boundary.

Bw2—13 to 27 inches; yellowish brown (10YR 5/4) gravelly very fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; 30 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; moderately acid; clear wavy boundary.

2C—27 to 72 inches; brown (10YR 5/3) extremely gravelly sand; single grain; loose; few fine roots; 70 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; moderately acid.

The thickness of the solum ranges from 24 to 50 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 10 to 50 percent, by volume, in the surface layer, from 15 to 60 percent in the subsoil, and from 30 to 70 percent in the substratum. The depth to carbonates, occurring as coatings on pebbles, is more than 72 inches.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate granular or subangular blocky. Consistence is very friable or friable. In unlimed areas reaction ranges from very strongly acid through moderately acid.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 3 through 6. Hue of 7.5YR is restricted to the Bw1 horizon. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam. The content of fine sand and coarse sand is less than 50 percent. Structure is weak or very weak subangular blocky or granular, or the horizon is massive. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

The 2C horizon has hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from loamy fine sand through coarse sand. The horizon is massive or single grain. Reaction ranges from strongly acid through slightly alkaline. Some pedons have a C horizon, in which the texture is the very channery analogs of sandy loam, loam, or silt loam.

Chippewa Series

The Chippewa series consists of very deep, poorly drained soils on broad glaciated uplands. These soils formed in glacial till derived from siltstone, sandstone, and shale. The subsoil has a dense fragipan at a depth of 8 to 20 inches. Slopes range from 0 to 3 percent.

Chippewa soils are commonly adjacent to somewhat poorly drained Venango soils. They are on the same landform as Venango soils. Moderately well drained Mardin soils are on the higher and more convex nearby hillsides and hilltops.

Typical pedon of Chippewa silt loam, in the town of Sangerfield, Oneida County, 50 feet east of Craig Foot Road and 0.5 mile south of Tubbs Road:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and very fine roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bg—7 to 14 inches; dark grayish brown (10YR 4/2) silt loam; common fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; many fine roots; 5 percent rock fragments; strongly acid; clear smooth boundary.

Eg—14 to 16 inches; dark gray (10YR 4/1) silt loam; common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; weak medium subangular blocky structure parting to weak thin platy; firm; common very fine roots; 10 percent rock fragments; strongly acid; clear smooth boundary.

Bx—16 to 42 inches; dark grayish brown (10YR 4/2) channery silt loam; common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; strong very coarse prisms, 12 to 14 inches apart, with gray (7.5YR 6/1) faces of peds and reddish yellow (7.5YR 6/6) rinds; ped faces are one-half to three-quarters of an inch wide; very firm and brittle; 20 percent rock fragments; strongly acid; clear smooth boundary.

C—42 to 72 inches; brown (10YR 4/3) channery silt loam; few fine faint dark yellowish brown (10YR 4/4) redoximorphic concentrations; massive; very firm; 30 percent rock fragments; moderately acid.

The thickness of the solum ranges from 30 to 56 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 8 to 20 inches. The content of rock fragments ranges from 0 to 35 percent, by volume, above the fragipan and from 20 to 50 percent in the fragipan and substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 through 4, and chroma of 1 or 2. The fine-earth fraction is loam or silt loam. Reaction ranges from very strongly acid through slightly acid.

The Eg horizon is neutral in hue or has hue of 10YR through 5Y. It has value of 4 through 6 and chroma of 0 or 1. It has redoximorphic features. The fine-earth fraction is loam, clay loam, silt loam, or light silty clay loam. Structure is weak or moderate, fine or medium subangular blocky. Consistence is friable or firm. Reaction ranges from very strongly acid through slightly acid.

The Bg horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 1 or 2. It has redoximorphic features. The fine-earth fraction is loam, clay loam, silt loam, or light silty clay loam. Structure is weak or moderate, fine or medium subangular blocky. Consistence is friable or firm. Reaction ranges from very strongly acid through slightly acid.

The Bx horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma generally of 1 or 2. Subhorizons below a depth of 30 inches may have chroma of 3 or 4. The fine-earth fraction ranges from light silty clay loam through fine sandy loam. Structure is strong or moderate very coarse prismatic parting to very weak through moderate subangular blocky or platy, or the material within the prisms is massive. Consistence is firm through extremely firm, and the horizon is brittle. Reaction ranges from strongly acid through neutral.

The C horizon is similar to the Bx horizon in color and texture. It is massive or has weak or moderate platelike divisions. Consistence is firm or very firm. Reaction ranges from moderately acid through slightly alkaline. Some pedons have a 2Cg horizon, which is more friable than the C horizon, ranges to sandy loam in the fine-earth fraction, and has as much as 60 percent rock fragments.

Collamer Series

The Collamer series consists of very deep, moderately well drained, moderately fine textured soils on glacial lake plains and till plains with a mantle of lacustrine sediments. These soils formed in silty lacustrine sediments. Slopes range from 0 to 25 percent.

Collamer soils are commonly adjacent to and in a drainage sequence with somewhat poorly drained Niagara soils. Poorly drained Canandaigua soils are in nearby depressional areas. Somewhat poorly drained Appleton soils are near Collamer soils in some areas. They have more rock fragments than the Collamer soils. In some areas Collamer soils are adjacent to Schoharie soils, which are more clayey than the Collamer soils.

Typical pedon of Collamer silt loam, 3 to 8 percent slopes, in the town of Vienna, Oneida County, 50 feet south of Route 49 and 2,000 feet west of Route 13:

Ap—0 to 10 inches; brown (7.5YR 4/2) silt loam, pinkish gray (7.5YR 6/2) dry; weak medium subangular blocky structure; friable; many medium roots; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

B/E—10 to 15 inches; reddish brown (5YR 4/3) silt loam; few fine faint brown (7.5YR 5/4) redoximorphic concentrations; moderate medium subangular blocky structure with dark reddish brown (5YR 3/3) ped centers one-fourth inch in diameter; friable; many medium roots; many fine pores; thin patchy clay films in tubular pores and on some ped faces; brown (7.5YR 5/2) coatings of fine sandy loam 1 to 2 millimeters thick on vertical faces of peds (E part); 5 percent rock fragments; slightly acid; clear smooth boundary.

Bt1—15 to 21 inches; reddish brown (5YR 4/3) silt loam; few fine faint reddish gray (5YR 5/2) redoximorphic depletions and reddish brown (5YR 5/4) redoximorphic concentrations; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine roots; common fine pores; many continuous clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—21 to 29 inches; brown (7.5YR 4/3) silty clay loam; common fine distinct strong brown (7.5YR 5/6) redoximorphic concentrations and few fine faint reddish gray (5YR 5/2) redoximorphic depletions; moderate fine subangular blocky structure; firm, slightly sticky, slightly plastic; few medium roots; common fine pores; many faint continuous clay films on faces of peds and in pores; slightly acid; gradual smooth boundary.

BC—29 to 43 inches; brown (7.5YR 4/4) silty clay loam; weak coarse prismatic structure parting to weak thick platy; firm, slightly sticky, slightly plastic; common fine pores; slightly acid; gradual smooth boundary.

C—43 to 72 inches; brown (10YR 4/3) silt loam; weak thick platy structure; firm, nonsticky; very dusky red (2.5YR 2.5/2) manganese stains on faces of peds; slightly acid in the upper part of the horizon grading to slightly effervescent and slightly alkaline below a depth of 62 inches.

The thickness of the solum ranges from 24 to 48 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 20 to 72 inches. The content of rock fragments generally ranges from 0 to 5 percent, by volume, throughout the profile. In some pedons that are underlain by glacial till, however, it is as much as 35 percent below a depth of 40 inches. Reaction is strongly acid through neutral in the surface layer and the upper part of the subsoil, moderately acid through slightly alkaline in the lower part of the subsoil, and slightly acid through moderately alkaline in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, very fine sandy loam, or silt loam. Structure is weak or moderate granular or subangular blocky. Consistence is very friable or friable.

The B/E horizon is like the E horizon on the exteriors of peds and like the Bt horizon in the interior of peds and has few to many redoximorphic concentrations with chroma of 3 or more.

The Bt horizons have hue of 5YR through 2.5Y and value of 4 or 5. They have chroma of 3 or 4 above a depth of 30 inches and chroma of 2 through 4 below that depth. They have few to many low-chroma redoximorphic depletions and high-chroma redoximorphic concentrations. The fine-earth fraction generally is silt loam or silty clay loam, but thin individual subhorizons range from fine sandy loam through silty clay. Structure is weak or moderate subangular blocky, angular blocky, or prismatic.

The BC horizon, where present, has hue of 5YR through 2.5Y. It has weak or moderate platy or prismatic structure.

The C horizon has hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction ranges from silty clay loam through stratified silt and very fine sand.

Colosse Series

The Colosse series consists of very deep, somewhat excessively drained or excessively drained soils on outwash plains, valley trains, kames, and eskers. These soils are dominantly somewhat excessively drained and formed in water-sorted gravelly outwash. Slopes range from 0 to 25 percent.

Colosse soils are commonly adjacent to well drained Worth, moderately well drained Empeyville, and somewhat poorly drained Westbury soils, which are on nearby glacial till uplands and have a fragipan in the subsoil. Bice soils are near Colosse soils on adjacent glacial till landforms. They have less gravel in the subsoil and substratum than the Colosse soils.

Typical pedon of Colosse gravelly loam, 3 to 15 percent slopes, map unit 2423C, Lewis County, New York, in the town of Lewis; southwest of Swancott Mill Road, in a forest; Point Rock, New York, USGS topographic quadrangle; lat. 43°27´15.5´´ N. and long. 75°36´20.7´´ W.

Oi—0 to 1 inch; slightly decomposed leaves and twigs; many very fine and fine and common medium roots; abrupt smooth boundary.

Ap1—1 to 2 inches; black (7.5YR 2.5/1) gravelly loam; weak fine and medium granular structure; very friable; common very fine and fine and few medium roots; 20 percent rock fragments, including 5 percent cobbles; extremely acid; abrupt smooth boundary.

Ap2—2 to 6 inches; very dark grayish brown (10YR 3/2) gravelly loam (old plow layer), brown (10YR 4/3) dry; weak fine and medium granular structure; very friable; many coarse and medium and common very fine and fine roots; 25 percent rock fragments, including 5 percent cobbles; very strongly acid; clear wavy boundary.

Bs—6 to 15 inches; dark reddish brown (5YR 3/4) and dark brown (7.5YR 3/4) very cobbly sandy loam (mixed colors); weak fine and medium granular structure; very friable; many coarse and medium and common very fine and fine roots; 35 percent rock fragments, including 15 percent cobbles; very strongly acid; clear irregular boundary.

BC—15 to 29 inches; strong brown (7.5YR 4/6) very cobbly sandy loam; massive; loose (slightly smeary); common fine and very fine, few medium, and very few coarse roots; 40 percent rock fragments, including 15 percent cobbles; strongly acid; clear broken boundary.

C1—29 to 39 inches; brown (7.5YR 4/4 and 10YR 5/3) very cobbly loamy sand (mixed sand grain colors); single grain; loose; common fine, few medium, and very few coarse roots; 50 percent rock fragments, including 20 percent cobbles; strongly acid; gradual wavy boundary.

C2—39 to 82 inches; brown (7.5YR 4/3) and grayish brown (10YR 5/2) extremely gravelly sand (mixed sand grain colors); single grain; loose; few fine and medium and very few coarse roots in the upper part of the horizon; 65 percent rock fragments, including 20 percent cobbles; strongly acid.

The thickness of the solum ranges from 24 to 40 inches and corresponds to depth to the C horizon in most pedons. The content of rock fragments ranges from 15 to 60 percent, by volume, in the solum and from 35 to 70 percent in the substratum. The rock fragments are dominantly gravel or cobbles but include some stones and channers. Reaction is extremely acid through strongly acid in the organic and mineral surface layer, very strongly acid or strongly acid in the solum, and strongly acid or moderately acid in the C horizon.

The O horizon has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 or 2.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 1 through 3. The fine-earth fraction ranges from sandy loam through loam. Consistence is very friable or friable.

Some pedons have an E horizon. This horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. It is the gravelly or very cobbly analogs of fine sandy loam, loamy fine sand, or fine sand. It has weak or very weak granular or subangular blocky structure and is very friable or loose.

The Bs horizon has hue of 5YR through 10YR and value and chroma of 3 through 6. It is the gravelly to very cobbly analogs of sandy loam or fine sandy loam. It has weak or very weak granular or subangular blocky structure and is very friable or loose.

The BC horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is fine sandy loam, sandy loam, loamy fine sand, or loamy sand. Structure is very weak or weak granular or subangular blocky, or the horizon is massive or single grain.

The 2C or C horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 2 through 4. It generally is the very cobbly to extremely gravelly analogs of loamy coarse sand, loamy sand, sand, or coarse sand. Some pedons have a subhorizon of sandy loam or loamy fine sand. The C horizons are stratified.

Colton Series

The Colton series consists of very deep, excessively drained soils on outwash plains, terraces, kames, and eskers in the Adirondack region, in the northeastern part of the county. Slopes range from 15 to 35 percent.

Colton soils are commonly adjacent to somewhat excessively drained Adams and moderately well drained Croghan soils, which formed in parent material similar to that of the Colton soils but have fewer rock fragments. Colton soils are near somewhat poorly drained Naumburg soils in depressions. Somewhat excessively drained Chenango soils are similar to the Colton soils in drainage and parent material but are in warmer parts of the county.

Typical pedon of Colton gravelly sandy loam, 15 to 35 percent slopes, in the town of Forestport, Oneida County, 0.5 mile south of Otter Lake and 50 feet west of Route 28:

A—0 to 4 inches; dark brown (7.5YR 3/2) gravelly sandy loam; weak fine and medium granular structure; very friable; many fine and medium and few coarse roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bh—4 to 7 inches; dark reddish brown (5YR 2.5/2) gravelly loamy sand; weak medium granular structure; friable; many fine and medium and few coarse roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bs—7 to 16 inches; strong brown (7.5YR 5/6) gravelly loamy sand; loose; single grain; common fine and medium roots; 30 percent rock fragments; strongly acid; clear wavy boundary.

BC—16 to 24 inches; brown (10YR 5/3) very gravelly loamy sand; loose; single grain; common fine and medium roots; 40 percent rock fragments; strongly acid; gradual wavy boundary.

C—24 to 72 inches; brown (10YR 4/3) very gravelly sand; loose; single grain; common fine roots; 40 percent rock fragments; strongly acid.

The thickness of the solum ranges from 18 to 45 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mainly gravel and cobbles, ranges from 10 to 55 percent in the surface layer, from 15 to 55 percent in the subsoil, and from 35 to 70 percent in the substratum.

Some undisturbed pedons have an O horizon, which is 1 to 8 inches thick.

The A horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 3 through 5 and chroma of 0 through 3. The fine-earth fraction ranges from sand through fine sandy loam. Structure is granular. Reaction ranges from extremely acid through moderately acid. Some pedons have an Ap horizon, which has chroma of from 2 through 4.

Some pedons have an E horizon. This horizon has hue of 5YR through 10YR, value of 4 through 7, and chroma of 1 or 2. The fine-earth fraction generally ranges from coarse sand through loamy fine sand. Some pedons have thin horizons that range to fine sandy loam.

The Bh horizon has hue of 2.5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. The fine-earth fraction generally ranges from coarse sand through loamy fine sand, but a few pedons have thin horizons that range to fine sandy loam. Structure is granular. The horizon is very friable or friable, with or without cemented masses. Reaction ranges from extremely acid through moderately acid.

Some pedons have a Bhs horizon. This horizon has hue of 2.5YR, value of 3 or 4, and chroma of 2 through 4. The texture, consistence, and reaction are similar to those of the Bh horizon.

The Bs horizon has hue of 2.5YR through 10YR, value of 3 through 6, and chroma of 3 through 8. The fine-earth fraction ranges from coarse sand through loamy fine sand. Structure is granular or subangular blocky, or the horizon is single grain. Reaction is extremely acid through moderately acid.

The BC horizon has hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 2 through 6. The fine-earth fraction ranges from coarse sand through loamy fine sand. Reaction ranges from very strongly acid through moderately acid.

The C horizon has hue of 7.5YR through 5Y, value of 3 through 7, and chroma of 2 through 6. The horizon is made up of gravel, cobbles, or stones with loamy sand, sand, or coarse sand in the interstices and has varying degrees of stratification. Reaction ranges from very strongly acid through slightly acid.

Conesus Series

The Conesus series consists of very deep, moderately well drained soils on glaciated uplands. These soils formed in loamy till derived mainly from limestone and shale and to a lesser extent from siltstone and sandstone. Slopes range from 0 to 15 percent.

Conesus soils are adjacent to and in a drainage sequence with well drained Lansing soils, somewhat poorly drained Appleton and Kendaia soils, and poorly drained Lyons soils. In some areas they are near somewhat poorly drained Manheim soils, which have a darker surface layer than the Conesus soils. Conesus soils are near Lima soils, which are calcareous above a depth of 32 inches. In a few areas Conesus soils are near moderately well drained Cazenovia soils, which have a redder subsoil than the Conesus soils.

Typical pedon of Conesus silt loam, 0 to 3 percent slopes, in the town of Paris, Oneida County, 120 feet south of the intersection of Sulphur Springs Road and Greens Crossing:

Ap—0 to 7 inches; dark brown (10YR 3/3) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable, slightly sticky, slightly plastic; many fine and very fine roots; many fine pores; 8 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; abrupt smooth boundary.

B/E—7 to 13 inches; dark yellowish brown (10YR 4/4) silt loam with brown (10YR 5/3) faces of peds (E part); some peds coated with dark brown (10YR 3/3) Ap material; weak medium subangular blocky structure; friable, nonsticky, nonplastic; many fine and very fine roots; common fine pores; thin continuous clay films in pores and on some faces of peds; 1-millimeter-thick coatings of silt loam and fine sandy loam on faces of peds, light gray (10YR 7/2) dry (E part); 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

Bt1—13 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; common medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few patchy distinct clay films on surfaces along pores and on all faces of peds; many fine and very fine roots; 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; gradual wavy boundary.

Bt2—24 to 35 inches; brown (10YR 4/3) gravelly silty clay loam; few medium prominent strong brown (7.5YR 5/8) and yellowish red (5YR 5/8) redoximorphic concentrations; moderate medium subangular blocky structure; friable, plastic and sticky; few patchy distinct clay films on surfaces along pores and on all faces of peds; common very fine roots; 15 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear smooth boundary.

BC—35 to 42 inches; dark grayish brown (10YR 4/2) gravelly silt loam; few medium prominent strong brown (7.5YR 5/8) and yellowish red (5YR 5/8) redoximorphic concentrations; weak fine and medium subangular blocky structure; friable, plastic and sticky; few very fine roots; many distinct clay bridges between sand grains; 30 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear smooth boundary.

Cd—42 to 72 inches; dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) very gravelly silt loam; common medium prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/6) redoximorphic concentrations; massive; firm, slightly plastic and sticky; few very fine roots; many distinct clay bridges between sand grains in the upper part of the horizon; 45 percent rock fragments; strongly effervescent; moderately alkaline.

The thickness of the solum ranges from 30 to 50 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 30 to 60 inches. The content of rock fragments ranges from 5 to 30 percent, by volume, in the solum and from 10 to 50 percent in the substratum. The content of cobblestones and flagstones is 0 to 5 percent in the solum and is as much as 10 percent in the substratum. Reaction ranges from strongly acid through neutral in the solum and from neutral through moderately alkaline in the substratum.

The Ap or A horizon has hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is silt loam or loam. Structure is weak or moderate, fine through coarse, granular or subangular blocky. Consistence is friable or very friable. Some pedons have a BA horizon below the A horizon.

The E part of the B/E or E/B horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or 3. The B part has colors similar to those of the Bt horizon. The fine-earth fraction is silt loam or loam. Structure is weak or moderate medium or fine subangular blocky. Consistence is friable or firm. Some pedons have few to many faint redoximorphic features. Some pedons have an E horizon, which is similar to the E part of the E/B horizon.

The Bt horizon has hue of 10YR through 5Y, value of 3 through 5, and chroma of 3 or 4. It has common or many fine through coarse, faint through prominent redoximorphic features. The fine-earth fraction generally is silt loam or loam with less than 35 percent sand, but individual subhorizons range to clay loam or silty clay loam averaging less than 28 percent clay. Structure is weak through strong, fine through coarse subangular blocky.

The BC horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 2 or 3. The fine-earth fraction ranges from loam through light silty clay loam. Consistence is friable or firm.

The Cd or C horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 2 or 3. It has redoximorphic features that are similar in color to those in the Bt horizon. The fine-earth fraction is loam or silt loam. Structure is platy or prismatic, or the horizon is massive. Consistence is generally firm or very firm, but some pedons have lenses of friable water-sorted material.

Covert Series

The Covert series consists of very deep, moderately well drained soils on glacial moraines, outwash plains, and lake plains, primarily in the west-central part of the county, on the Oneida Lake Plain. These soils formed in sandy lacustrine or glaciofluvial deposits. Slopes range from 0 to 8 percent.

Covert soils are in a drainage sequence with excessively drained Windsor and somewhat poorly drained Wareham soils, which formed in material similar to that of the Covert soils. Covert soils are near poorly drained Jebavy soils, which have a firm ortstein layer in the subsoil. They also are near somewhat excessively drained Alton and Chenango soils on some of the more gravelly outwash plains.

Typical pedon of Covert loamy sand, 0 to 3 percent slopes, in the city of Rome, Oneida County, 0.5 mile east of the intersection of Route 69 and Humaston Road and 0.8 mile north of Route 69:

Ap—0 to 7 inches; very dark gray (10YR 3/1) loamy sand, gray (10YR 6/1) dry; weak fine and medium granular structure; very friable; many fine, common medium, and very few coarse roots; very strongly acid; abrupt smooth boundary.

Bs1—7 to 13 inches; brown (7.5YR 4/4) sand; single grain; loose; common fine, medium, and coarse roots; strongly acid; gradual wavy boundary.

Bs2—13 to 21 inches; strong brown (7.5YR 5/6) sand; single grain; loose; common fine and few medium and coarse roots; strongly acid; gradual wavy boundary.

BC—21 to 36 inches; yellowish brown (10YR 5/4) sand; common medium distinct light brownish gray (10YR 6/2) redoximorphic depletions and common fine prominent yellow (10YR 7/8) redoximorphic concentrations; single grain; loose; few fine and medium roots; strongly acid; clear wavy boundary.

C—36 to 72 inches; brown (10YR 5/3) fine sand; common fine and medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; single grain; loose; moderately acid.

The thickness of the solum ranges from 24 to 45 inches. The content of rock fragments, generally gravel, ranges from 0 to 5 percent, by volume, throughout the profile.

The Ap horizon has hue of 10YR or 7.5YR, value of 2 through 4, and chroma of 1 through 3. The fine-earth fraction is sand or loamy sand. Reaction ranges from very strongly acid through neutral. Some pedons have an A horizon, which has hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1.

Some pedons have an E horizon. This horizon has hue of 10YR or 7.5YR, value of 4 through 7, and chroma of 1 through 3. The fine-earth fraction is sand or loamy sand. Reaction ranges from very strongly acid through neutral.

The Bs1 horizon has hue of 7.5YR or 5YR, value of 3 through 5, and chroma of 4. Reaction ranges from very strongly acid through moderately acid.

The Bs2 horizon has hue of 10YR through 5YR, value of 4 or 5, and chroma of 4 through 8. Reaction ranges from very strongly acid through neutral. Some pedons have as much as 30 percent ortstein material in the Bs horizons.

The BC horizon has redoximorphic features in some pedons.

The C horizon has hue of 10YR through 5YR, value of 4 through 7, and chroma of 1 through 8. It commonly has distinct or prominent redoximorphic features. The fine-earth fraction is sand or fine sand. Reaction ranges from strongly acid through moderately alkaline.

Croghan Series

The Croghan series consists of very deep, moderately well drained soils on lake plains, outwash plains, and terraces in the Adirondack region, in the northeastern part of the county. These soils formed in sandy deltaic or glaciofluvial deposits. Slopes range from 0 to 8 percent.

Croghan soils are commonly adjacent to and in a drainage sequence with somewhat excessively drained Adams soils and somewhat poorly drained Naumburg soils. They are adjacent to excessively drained Colton soils, which are on the same landforms as the Croghan soils and have more rock fragments than the Croghan soils. Skerry soils are on nearby glacial till uplands. They commonly have more rock fragments than the Croghan soils.

Typical pedon of Croghan loamy fine sand, 0 to 3 percent slopes, in the town of Boonville, Oneida County, 0.25 mile east of the town line and 600 feet south of Cummings Creek:

Oe—0 to 1 inch; moderately decomposed leaf litter derived from black cherry, red maple, hemlock, and balsam fir; extremely acid.

A/E—1 to 6 inches; black (10YR 2/1) loamy fine sand (A part) mixed with 15 percent brown (7.5YR 5/2) E material and 5 percent clean sand grains; weak fine and medium granular structure; very friable; many fine, few medium, and very few coarse roots; extremely acid; clear irregular boundary.

E—6 to 10 inches; pinkish gray (5YR 6/2) fine sand; weak fine and medium subangular blocky structure; very friable; many fine, common medium, and very few coarse roots; few fine distinct brown (7.5YR 5/4) root stains; very strongly acid; abrupt wavy boundary.

Bh—10 to 11 inches; dark reddish brown (5YR 2.5/2) sand; weak fine subangular blocky structure; friable; many fine, common medium, and very few coarse roots; very strongly acid; abrupt wavy boundary.

Bs1—11 to 19 inches; reddish brown (5YR 4/4) fine sand; very dark grayish brown (2.5Y 3/2), weakly cemented, firm and brittle bodies making up 20 percent of the volume; weak fine and medium subangular blocky structure; friable; common fine and few medium and coarse roots; few vesicular pores; very strongly acid; clear irregular boundary.

Bs2—19 to 24 inches; brown (7.5YR 4/4) fine sand; dark yellowish brown (10YR 4/4), firm and brittle bodies; common fine distinct strong brown (7.5YR 5/6) and few fine distinct yellowish red (5YR 4/6) redoximorphic concentrations; weak medium and coarse subangular blocky structure; friable; common fine and few medium roots; strongly acid; clear wavy boundary.

BC—24 to 34 inches; strong brown (7.5YR 5/6) fine sand; few medium prominent pinkish gray (7.5YR 6/2) redoximorphic depletions surrounded by few medium distinct strong brown (7.5YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; strongly acid; clear smooth boundary.

C1—34 to 49 inches; stratified, brown (10YR 5/3) sand; single grain; very friable; strongly acid; clear wavy boundary.

C2—49 to 72 inches; yellowish brown (10YR 5/4) fine sand with yellowish red (5YR 5/6) and dark yellowish brown (10YR 4/4) laminae; weak thin and medium inherited platy structure; friable; strongly acid.

The thickness of the solum ranges from 20 to 50 inches. The textures are dominantly sandy, but they include fine sandy loam within 10 inches of the mineral soil surface, which can include all or part of the A horizon, the E horizon, where present, and the upper part of the B horizon. The depth to bedrock is more than 60 inches. Redoximorphic features occur within 30 inches of the mineral soil surface. The content of rock fragments ranges from 0 to 5 percent, by volume, in the surface layer and subsurface layer and from 0 to 15 percent in the subsoil and substratum.

Pedons in unplowed areas have an O horizon, which is 1 to 6 inches thick. This horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. Reaction ranges from extremely acid through moderately acid.

The A horizon has hue of 5YR through 10YR, value of 2 through 4, and chroma of 1 or 2. The Ap horizon, where present, includes value of 5 and chroma of 3 and is as much as 13 inches thick. The fine-earth fraction is fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand. Reaction ranges from extremely acid through moderately acid.

The E horizon has hue of 5YR through 10YR, value of 5 through 7, and chroma of 1 or 2. The fine-earth fraction is fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand. Reaction ranges from very strongly acid through moderately acid.

Some pedons have a Bhs horizon. This horizon has hue of 2.5YR to 7.5YR and value and chroma of 3 or less. The fine-earth fraction is fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand. Reaction ranges from very strongly acid through moderately acid.

The Bh horizon has hue of 5YR through 10YR, value of 2, 2.5, or 3, and chroma of 1 through 4. It is as much as 3 inches thick. The texture and reaction are the same as those in the Bhs horizon.

The Bs horizons have hue of 2.5YR through 7.5YR, value of 3 through 6, and chroma of 3 through 8. The fine-earth fraction is fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand. Reaction ranges from very strongly acid through moderately acid.

The BC horizon has hue of 7.5YR through 2.5Y, value of 4 through 8, and chroma of 2 through 6. The fine-earth fraction is loamy fine sand, loamy sand, fine sand, or sand. Reaction ranges from very strongly acid through moderately acid.

The C horizons have hue of 7.5YR through 5Y, value of 4 through 7, and chroma of 1 through 6. The fine-earth fraction generally is loamy sand, fine sand, sand, or coarse sand. Thin strata of very fine sandy loam, fine sandy loam, or loamy fine sand are below a depth of 40 inches in some pedons. Reaction ranges from very strongly acid through moderately acid.

Dannemora Series

The Dannemora series consists of very deep, poorly drained soils on nearly level glaciated uplands and along drainageways on the Tug Hill Plateau, in the northwestern part of the county. These soils formed in glacial till derived principally from sandstone and other acid rocks. Slopes range from 0 to 3 percent.

Dannemora soils are in a drainage sequence with well drained Worth soils, moderately well drained Empeyville soils, and somewhat poorly drained Westbury soils. They are near very poorly drained Tughill soils, which do not have a fragipan. Very poorly drained Wonsqueak soils occur in nearby bogs. They have 16 to 51 inches of organic material. In a few areas Dannemora soils are adjacent to Marcy soils, which are similar to the Dannemora soils and are mapped mainly in the north-central part of the county.

Typical pedon of Dannemora gravelly fine sandy loam, Franklin County, New York; town of Chateaugay, 1.9 miles north of the town line and 0.9 mile west of the county line; 50 feet north of an abandoned road in a level area; USGS Chateaugay, New York, topographic quadrangle; lat. 44°53´40´´ N. and long. 74°1´48´´ W.; NAD 1927:

Ap—0 to 8 inches; very dark gray (10YR 3/1) gravelly fine sandy loam; weak fine granular structure; very friable; many fine roots; 20 percent rock fragments; very strongly acid; clear smooth boundary.

Eg—8 to 11 inches; light brownish gray (10YR 6/2) gravelly fine sandy loam; massive; friable; common fine roots; few medium pores; 20 percent rock fragments; common medium faint grayish brown (10YR 5/2) redoximorphic depletions and few fine faint brown (10YR 5/3) redoximorphic concentrations; very strongly acid; clear smooth boundary.

Bg—11 to 16 inches; grayish brown (10YR 5/2) gravelly fine sandy loam; massive; friable; few roots; few medium pores; 25 percent rock fragments; many medium distinct yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) redoximorphic concentrations; very strongly acid; clear smooth boundary.

Bxg—16 to 42 inches; dark grayish brown (2.5Y 4/2) very gravelly fine sandy loam; moderate very coarse prismatic structure; very firm, brittle; few medium pores; thin clay linings in pores; 40 percent rock fragments; common medium distinct olive brown (2.5Y 4/4) redoximorphic concentrations; strongly acid; diffuse irregular boundary.

Cd—42 to 72 inches; dark grayish brown (2.5Y 4/2) very gravelly fine sandy loam; massive with platelike divisions; very firm; 45 percent rock fragments; few fine black (10YR 2/1) organic accumulations; few fine faint brown (10YR 5/3) redoximorphic concentrations; strongly acid.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 12 to 20 inches. The content of rock fragments ranges from 10 to 35 percent, by volume, above the fragipan and from 25 to 50 percent in the fragipan and substratum.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction ranges from silt loam through sandy loam. Reaction ranges from extremely acid through moderately acid. Pedons in some undisturbed areas have an A horizon, which is as much as 6 inches thick and has colors similar to those in the Ap horizon, except that chroma ranges from 0 through 2.

The Eg horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 1 or 2. The fine-earth fraction ranges from silt loam through sandy loam. Structure is weak or moderate subangular blocky or platy, or the horizon is massive. Reaction ranges from extremely acid through moderately acid. In some pedons the E horizon has been replaced by a B or BE horizon in part or in total.

The Bg horizon has hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 1 or 2. The fine-earth fraction is similar to that of the E horizon. Structure is subangular blocky, or the horizon is massive . Reaction ranges from extremely acid through moderately acid.

The Bx horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 1 or 2. The fine-earth fraction ranges from silt loam through sandy loam. Reaction ranges from very strongly acid through slightly acid.

The Cd horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from loam through sandy loam. The horizon is massive or has structure that has platelike divisions. Reaction ranges from very strongly acid through neutral. Some pedons have a 2Cd horizon.

Dawson Series

The Dawson series consists of very deep, very poorly drained soils in bogs and depressional areas on outwash plains, lake plains, flood plains, and uplands in the Adirondack region. These soils formed in mainly well decomposed organic material that is 16 to 51 inches deep over sandy material. Slopes range from 0 to 2 percent.

Dawson soils are on landscapes similar to those of Greenwood soils, which have organic material that extends to a depth of more than 51 inches. Dawson soils are commonly adjacent to well drained Becket, moderately well drained Skerry, and somewhat poorly drained Adirondack soils in the higher areas of glacial till.

Typical pedon of Dawson peat, in the town of Forestport, Oneida County, 1,000 feet west of Route 28 and 1,000 feet east of the northern portion of Long Lake:

Oi—0 to 6 inches; dark reddish brown (5YR 3/4) (broken face), dark reddish brown (5YR 2.5/2) (rubbed), and light reddish brown (5YR 6/3) (pressed) peat (fibric material); about 90 percent fibers undisturbed, 85 percent fibers rubbed; primarily sphagnum moss fibers; weak very coarse subangular blocky structure; very friable; many fine and very fine roots; extremely acid; abrupt smooth boundary.

Oa—6 to 20 inches; dark reddish brown (5YR 3/3) (broken face) and dark reddish brown (5YR 2.5/2) (rubbed and pressed) muck (sapric material); about 50 percent fibers undisturbed, 8 percent fibers rubbed; primarily sphagnum moss fibers; massive; very friable; many fine and very fine roots; extremely acid; abrupt smooth boundary.

A—20 to 23 inches; dark brown (7.5YR 3/2) sand; single grain; extremely acid; clear smooth boundary.

C—23 to 72 inches; yellowish red (5YR 4/6) sand; single grain; very strongly acid.

The depth to contrasting sandy material ranges from 16 to 51 inches. In some pedons the mineral layer is a single layer 12 or more inches thick and has organic material above and below it. The organic layers are extremely acid.

The surface tier has hue of 5YR through 2.5Y or is neutral on hue. It has value of 2 through 7 and chroma of 0 through 6. Value normally increases several units when the material is pressed. The horizon is dominated by sphagnum moss. The upper part is living sphagnum, but the lower part has undergone some decomposition. The content of fibers ranges from 75 to 95 percent before rubbing and from 30 to 90 percent after rubbing. In some pedons the surface tier is muck or mucky peat.

The subsurface and bottom tiers, where present, have hue of 5YR through 10YR or are neutral in hue. They have value of 2 through 6 and chroma of 0 through 3. They are dominantly muck (sapric material), but some pedons have layers of peat (fibric material) totaling less than 5 inches in thickness and layers mucky peat (hemic material) totaling less than 10 inches in thickness. These tiers typically are massive but in some pedons have weak very thick platy or subangular blocky structure.

The A horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 1 through 3. The fine-earth fraction is sand, fine sand, loam, silt loam, mucky sand, or mucky fine sand. Reaction is extremely acid.

The C horizon has hue of 2.5YR through 2.5Y or is neutral in hue. It has value of 3 through 6 and chroma of 0 through 6. The fine-earth fraction generally is sand, loamy sand, fine sand, very fine sand, or loamy fine sand. Some pedons have a thin substratum of fine sandy loam with as much as 60 percent gravel. Reaction ranges from extremely acid through slightly acid.

Empeyville Series

The Empeyville series consists of very deep, moderately well drained soils on glaciated uplands on the Tug Hill Plateau. These soils formed in firm glacial till derived from acid sandstone, siltstone, and shale. The subsoil has a dense fragipan at a depth of 14 to 22 inches. Slopes range from 3 to 15 percent.

Empeyville soils are commonly adjacent to and form a drainage sequence with well drained Worth soils on the slightly higher parts of the landscape. Somewhat poorly drained Westbury soils and poorly drained Dannemora soils are adjacent to Empeyville soils in depressions and the slightly lower areas. Well drained Bice soils, which do not have a fragipan, are near Empeyville soils in some areas.

Typical pedon of Empeyville loam, 3 to 8 percent slopes, stony, in the town of Annsville, Oneida County, about 420 feet north of the intersection of Cassbaker Road and a north-south truck trail, 1,000 feet west of Gossner Road, and 280 feet east of the north-south truck trail; Point Rock USGS quadrangle (WGS84); lat. 43°25´06´´ N. and long. 75°35´36´´ W.

Oa—0 to 1 inch; root mat and highly decomposed organic material; abrupt smooth boundary.

A—1 to 3 inches; black (7.5YR 2.5/1) loam; weak fine and medium subangular blocky structure; friable; many fine and medium and few coarse roots; 5 percent rock fragments; extremely acid; clear wavy boundary.

Bs1—3 to 11 inches; dark brown (7.5YR 3/2) channery loam; weak fine and medium subangular blocky structure; very friable; many fine and common medium roots; 30 percent rock fragments; very strongly acid; clear wavy boundary.

Bs2—11 to 17 inches; dark brown (10YR 3/3) channery fine sandy loam; moderate fine and medium subangular blocky structure; friable; common medium and few fine and coarse roots; 15 percent rock fragments; very strongly acid; abrupt smooth boundary.

E—17 to 20 inches; dark yellowish brown (10YR 4/4) fine sandy loam; common medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations; moderate thin platy structure; friable; few fine roots; 12 percent rock fragments; very strongly acid; abrupt wavy boundary (with tongues extending into the underlying horizon).

Bx—20 to 31 inches; yellowish brown (10YR 5/4) channery fine sandy loam; moderate very coarse prismatic structure parting to weak medium subangular blocky; firm; pinkish gray (7.5YR 6/2) prism face interiors and brown (7.5YR 5/4) prism face exteriors one-half inch wide (faces are 15 to 20 inches apart); 20 percent rock fragments; very strongly acid; clear wavy boundary.

C—31 to 72 inches; yellowish brown (10YR 5/4) cobbly fine sandy loam; massive; friable; 20 percent rock fragments, including 10 percent fragments larger than 3 inches in diameter; strongly acid.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 14 to 22 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, in the surface layer and the upper part of the subsoil, from 12 to 35 percent in the next part of the subsoil (above the fragipan), and from 20 to 50 percent in the fragipan and substratum.

The A or Ap horizon, where present, has hue of 10YR or 7.5YR, value or 2.5 through 4, and chroma of 1 through 3. The fine-earth fraction ranges from silt loam through sandy loam. Reaction ranges from extremely acid through slightly acid. In some undisturbed areas, a black organic layer 1 to 6 inches thick is underlain by a gray or pinkish gray E horizon 1 to 4 inches thick.

The Bs horizons have hue of 5YR through 10YR, value of 3 through 6, and chroma of 2 through 8. The fine-earth fraction is silt loam, loam, or sandy loam in the Bs1 horizon and loam or sandy loam in the Bs2 horizon. Structure is weak or moderate subangular blocky or granular. Consistence is very friable through firm. Reaction ranges from very strongly acid through slightly acid.

The E horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from sandy loam through loam. Consistence is friable or firm. Reaction ranges from very strongly acid through slightly acid.

The Bx horizon has hue of 2.5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from loam through sandy loam with less than 45 percent silt and very fine sand. Structure is strong or moderate, coarse or very coarse prismatic. Consistence is firm or very firm and brittle. Reaction ranges from very strongly acid through slightly acid.

The C horizon has hue of 2.5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from loam through sandy loam. The horizon is massive or has platelike divisions. Consistence is friable or firm. Reaction ranges from strongly acid through neutral.

Farmington Series

The Farmington series consists of shallow, well drained soils on hilltops and side slopes on bedrock-controlled uplands and in some areas on broad till plains or in small valleys. These soils formed in thin deposits of glacial till, which is underlain by hard limestone bedrock. Slopes range from 2 to 25 percent.

Farmington soils are commonly adjacent to moderately deep, well drained Galway soils. They are near very deep, well drained Honeoye soils; very deep, moderately well drained Lima soils; and very deep, moderately well drained Cazenovia soils.

Typical pedon of Farmington silt loam, 2 to 8 percent slopes, in the town of Paris, Oneida County, 0.25 mile south of the intersection of Stone Road and Holman City Road and 0.25 mile east of Holman City Road:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—4 to 8 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—8 to 14 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common fine roots; 10 percent rock fragments; moderately acid; abrupt wavy boundary.

2R—14 inches; gray, hard limestone bedrock.

The thickness of the solum (or the depth to bedrock) ranges from 10 to 20 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, in the solum. The content of clay ranges from 10 to 27 percent.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 1 through 3. It has dry value of 6 or more. The fine-earth fraction is silt loam, loam, or fine sandy loam. Unless the soils have been limed, reaction ranges from strongly acid through neutral.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 6. The fine-earth fraction is silt loam, loam, very fine sandy loam, or fine sandy loam. Structure is weak or moderate, fine or medium, subangular blocky or granular. Consistence is friable or very friable. Unless the soils have been limed, reaction ranges from moderately acid through slightly alkaline.

The 2R layer is dominantly limestone bedrock, but hard shale underlies some pedons.

Fluvaquents

Fluvaquents consist of very deep alluvial soils formed in material recently deposited by streams and rivers on flood plains. Typically, these soils are poorly drained or very poorly drained but in some areas are somewhat poorly drained. They are subject to frequent flooding. Through scouring, cutting, lateral erosion, and overflow, the adjacent streams and rivers frequently shift the soil material from place to place. Slopes range from 0 to 3 percent.

Fluvaquents are mapped in a complex with well drained Udifluvents and, in the northern part of the county, in a complex with very poorly drained Borosaprists; are commonly near poorly drained Wayland soils at similar elevations on flood plains; and are adjacent to well drained Wenonah, somewhat poorly drained Wakeville, moderately well drained Otego, and well drained Hamlin soils in areas on flood plains where soil properties are spatially less variable. Somewhat excessively drained Howard, Alton, and Chenango soils, moderately well drained Castile soils, and somewhat poorly drained Fredon soils formed in outwash on terraces above and adjacent to Fluvaquents. Somewhat poorly drained Kendaia soils and poorly drained Lyons soils are near Fluvaquents on glaciated uplands in the southern part of the county, and poorly drained Dannemora, Marcy, and Runeberg soils are near Fluvaquents in the northern part of the county.

Idealized pedon of Fluvaquents, in an area of Udifluvents-Fluvaquents complex, frequently flooded, from the town of Marcy, Oneida County, about 0.75 mile northwest of the intersection of Cavanaugh Road and State Route 49, about 2,400 feet north of State Route 49, and 2,000 feet east of State Route 12C:

A—0 to 7 inches; very dark gray (10YR 3/1) silt loam; common fine and medium prominent dark reddish brown (5YR 3/4) redoximorphic concentrations and pore linings; moderate fine and medium granular structure; very friable; many fine and very fine roots; slightly acid; abrupt smooth boundary.

C1—7 to 14 inches; dark greenish gray (5GY 3/1) silty clay loam; common medium and coarse prominent strong brown (7.5YR 4/6) redoximorphic concentrations; massive; friable; few fine and very fine roots; neutral; clear smooth boundary.

C2—14 to 45 inches; dark gray (N 4/0) silt loam; few medium prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations; massive; firm; slightly effervescent; moderately alkaline; clear smooth boundary.

C3—45 to 72 inches; dark gray (5Y 4/1) silty clay loam; massive; firm; slightly effervescent; moderately alkaline.

Fluvaquents are highly variable, and thus an idealized pedon is described rather than a typical pedon. These soils show little or no evidence of profile development. The depth to bedrock is generally more than 60 inches, except for a few small areas where the stream has cut down to the bedrock valley floor and removed most of the alluvial deposits. The thickness of the solum ranges from 1 to 15 inches and corresponds to the thickness of the surface layer. The content of rock fragments, including pebbles and cobblestones, ranges from 0 to 80 percent, by volume. Reaction ranges from very strongly acid through neutral in the surface layer and from very strongly acid through moderately alkaline in the substratum. The content of organic matter decreases irregularly with increasing depth.

The following paragraphs describe the general range in characteristics of the Fluvaquents in this county.

The surface layer has hue of 7.5YR through 2.5Y or is neutral in hue. It has value of 2 through 5 and chroma of 0 through 4. The fine-earth fraction ranges from sand through silty clay loam. The cobbly, gravelly, or very gravelly analogs occur in many areas.

The substratum has hue of 7.5YR through 10GY or is neutral in hue. It has value of 2 through 5 and generally has chroma of 0 through 2. Some subhorizons have chroma of 3 or 4. The substratum commonly has redoximorphic features. The fine-earth fraction ranges from coarse sandy loam through silty clay loam. Cobbly to extremely gravelly subhorizons are common. Consistence is friable or loose to firm.

Fredon Series

The Fredon series consists of very deep, somewhat poorly drained or poorly drained soils in concave and depressional areas on outwash terraces, stream terraces, and the margins of alluvial fans. These soils formed in water-sorted glacial outwash. Slopes range from 0 to 3 percent.

Fredon soils are commonly adjacent to and form a drainage sequence with very poorly drained Halsey soils in the more concave and depressional areas and moderately well drained Castile and Phelps soils on landforms similar to those of the Fredon soils. Somewhat excessively drained Howard, Alton, and Chenango soils are adjacent to Fredon soils in the higher positions. Somewhat poorly drained Wakeville soils are on nearby flood plains.

Typical pedon of Fredon gravelly silt loam, in the town of Bridgewater, Oneida County, 1 mile north of the village of Bridgewater and 440 yards east of Route 12:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) gravelly silt loam, light brownish gray (10YR 6/2) dry; common medium distinct pale brown (10YR 6/3) redoximorphic concentrations; weak medium granular structure; friable; many fine and few medium roots; 15 percent rock fragments; slightly acid; abrupt smooth boundary.

Bw—7 to 15 inches; brown (10YR 5/3) gravelly silt loam; dark grayish brown (10YR 4/2) organic coatings; many medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations; weak fine subangular blocky structure; friable; many fine roots; 15 percent rock fragments; slightly acid; clear smooth boundary.

Bg—15 to 24 inches; brown (7.5YR 4/2) gravelly loam; many medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; common fine roots; 20 percent rock fragments; neutral; clear smooth boundary.

2C—24 to 72 inches; dark gray (N 4/0) very gravelly loamy sand; many medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; single grain; loose; few fine roots; 40 percent rock fragments; slightly alkaline.

The thickness of the solum ranges from 22 to 40 inches. The depth to bedrock is more than 72 inches. The content of rock fragments ranges, by volume, from 2 to 35 percent in the solum and from 10 to 60 percent in the 2C horizon. Reaction ranges from moderately acid through neutral in the solum and from moderately acid through moderately alkaline in the 2C horizon.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 through 4, and chroma of 1 or 2. The fine-earth fraction is loam, fine sandy loam, very fine sandy loam, or silt loam.

The B horizons have hue of 7.5YR through 5Y, value of 4 through 6, and chroma of 1 through 4. They have redoximorphic features. The fine-earth fraction is silt loam, loam, fine sandy loam, or very fine sandy loam. Structure is weak or moderate subangular blocky or weak coarse prismatic or platy. Consistence is very friable through firm.

The 2C horizon has hue of 5YR through 5Y or is neutral in hue. It has value of 3 through 6 and chroma of 0 through 4. The fine-earth fraction is sand through loamy fine sand, and the horizon commonly is stratified. It is calcareous in some pedons.

Galway Series

The Galway series consists of moderately deep, well drained or moderately well drained soils on hilltops and side slopes on bedrock-controlled uplands and on undulating to rolling, dissected till plains. These soils are dominantly well drained and formed in glacial till derived mainly from limestone bedrock. In some areas they have sandstone or shale rock fragments. Slopes range from 0 to 15 percent.

Galway soils are commonly adjacent to shallow, well drained Farmington soils. They are on the same landforms as Farmington soils. Galway soils commonly are near very deep, well drained Lansing and Honeoye soils and very deep, moderately well drained Conesus soils and in a few areas are near very deep, moderately well drained Cazenovia soils.

Typical pedon of Galway silt loam, 3 to 8 percent slopes, in the town of Paris, Oneida County, 175 feet west of Greene's Crossing Road and 125 feet north of Crooked Hill Road:

Ap1—0 to 5 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable, nonsticky, nonplastic; many very fine and fine roots; 5 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; abrupt smooth boundary.

Ap2—5 to 8 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine and medium granular structure; friable, nonsticky, nonplastic; many fine and very fine roots; 5 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

Bw1—8 to 17 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium and fine subangular blocky structure; friable, slightly sticky, nonplastic; many fine and very fine roots; few thin clay films in tubular or interstitial pores; few pockets of A material extending into this horizon; 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

Bw2—17 to 26 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine and very fine roots; few thin clay films lining tubular or interstitial pores; 10 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; neutral grading to slightly alkaline; slightly effervescent directly above the bedrock; clear smooth boundary.

2R—26 inches; gray, hard limestone bedrock.

The thickness of the solum ranges from 18 to 30 inches. The depth to carbonates ranges from 14 to 40 inches. The depth to bedrock ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 35 percent, by volume, in the A horizon, from 3 to 35 percent in the B horizon, and from 10 to 70 percent in the C horizon. The content in the A horizon includes as much as 15 percent fragments more than 3 inches in diameter, and the content in the B and C horizons includes as much as 5 percent fragments more than 3 inches in diameter. Reaction is moderately acid through neutral in the A horizon, moderately acid through slightly alkaline in the B horizon, and slightly alkaline or moderately alkaline in the C horizon.

The Ap horizons have hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam or loam. Structure is fine through coarse granular or fine or medium subangular blocky. Consistence is very friable or friable.

The Bw horizons have hue of 5YR through 2.5Y and value and chroma of 3 through 6. Faint or distinct mottles or redoximorphic concentrations with chroma higher than 2 occur in the Bw2 horizon in some pedons. The fine-earth fraction is silt loam, loam, or fine sandy loam. Structure is weak or moderate, fine through coarse, subangular blocky or granular. Consistence is very friable through firm.

Some pedons have a BC horizon, which is similar to the Bw horizons but has free carbonates and has chroma as low as 2.

Some pedons have a C horizon. This horizon has hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 2 through 4. Where chroma is 2, value is 4 or more. The fine-earth fraction ranges from silt loam through sandy loam. Consistence is friable or firm. This horizon is calcareous in some part.

The 2R layer is limestone, dolomitic limestone, or calcareous sandstone bedrock.

Greene Series

The Greene series consists of moderately deep, somewhat poorly drained soils on bedrock-controlled uplands. These soils formed in a thin mantle of glacial till, which is underlain by shale, siltstone, and sandstone bedrock. Slopes range from 0 to 15 percent.

Greene soils are commonly adjacent to well drained Manlius soils. They are on the same landform as Manlius soils. Somewhat poorly drained Tuller soils are adjacent to Greene soils in areas where the deposit of glacial till is shallower over bedrock. Very deep Venango soils, which have firm subsoil layers, are near Greene soils. Shallow, well drained Arnot soils are on nearby landforms.

Typical pedon of Greene silt loam, in an area of Greene-Tuller complex, 1 to 8 percent slopes, Otsego County, New York, in the town of Exeter, 600 feet west of

County Route 24, about 1 mile southwest of the intersection of County Route 24 and Furman Road, in a pine plantation; lat. 42°50´01´´ N. and long. 75°05´57´´ W.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; many medium and coarse roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

Bw—8 to 18 inches; brown (10YR 4/3) silt loam; many medium prominent strong brown (7.5YR 4/6) redoximorphic concentrations and common medium faint light brownish gray (10YR 6/2) redoximorphic depletions; moderate medium subangular blocky structure; friable; common fine and medium roots; few fine vesicular pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bg—18 to 27 inches; dark grayish brown (2.5Y 4/2) silt loam; common fine and medium distinct dark yellowish brown (10YR 4/4) and prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations; weak medium subangular blocky structure; friable; few fine roots; common fine vesicular pores; 10 percent rock fragments; moderately acid; clear wavy boundary.

Cg—27 to 39 inches; dark grayish brown (2.5Y 4/2) gravelly loam; few fine and medium prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations; massive; friable; many fine vesicular pores; 25 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—39+ inches; black (N 2/0), fractured shale bedrock.

The thickness of the solum ranges from 16 to 40 inches. The depth to bedrock ranges from 20 to 40 inches. The content of rock fragments ranges from 5 to 15 percent, by volume, in the surface layer and from 5 to 35 percent in the subsoil and substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction is silt loam, silty clay loam, or loam. Structure is weak or moderate, fine or medium granular. In unlimed areas reaction ranges from extremely acid through strongly acid.

The Bg horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 1 or 2. It has few to many redoximorphic features. Some pedons have manganese stains and ped faces with chroma of 3 or less. The fine-earth fraction ranges from loam through silty clay loam. Structure is weak or moderate, medium or coarse subangular blocky or coarse or very coarse prismatic parting to platy, or it is thin or medium platy parting to subangular blocky. Consistence is friable or firm. In unlimed areas reaction is strongly acid or moderately acid.

The Bw horizon is similar to the Bg horizon, but it has chroma of 3 or 4.

The C horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 through 4. It has few to many redoximorphic features. The fine-earth fraction ranges from loam through silty clay loam. The horizon is massive or has platelike structure inherited from the weathering bedrock. In unlimed areas reaction is strongly acid or moderately acid.

The 2R layer consists of grayish, brownish, or black shale, siltstone, or sandstone. The upper part of the bedrock is fractured in some pedons.

Greenwood Series

The Greenwood series consists of very deep, very poorly drained soils in bogs and depressional areas on outwash plains, lake plains, flood plains, and uplands in the Adirondack region. These soils formed in organic material more than 51 inches thick. Slopes range from 0 to 2 percent.

Greenwood soils are commonly adjacent to Dawson soils. Dawson soils are similar to the Greenwood soils, but their organic deposits are 16 to 51 inches deep over mineral material. Greenwood soils are near well drained Becket, moderately well drained Skerry, and somewhat poorly drained Adirondack soils, which formed in loamy glacial till.

Typical pedon of Greenwood peat, in the town of Forestport, Oneida County, 70 feet east of the Old Adirondack Railway and due east of the northern tip of White Lake:

Oi1—0 to 5 inches; dark reddish brown (5YR 2.5/3) (broken face), dark reddish brown (5YR 3/3) (rubbed), and pink (5YR 7/3) (pressed) fibric material (peat); 90 percent fibers unrubbed, 85 percent fibers rubbed; primarily sphagnum moss fibers; weak very coarse subangular blocky structure; very friable; extremely acid; clear smooth boundary.

Oi2—5 to 12 inches; dark reddish brown (5YR 2.5/2) (broken face), dark reddish brown (5YR 3/3) (rubbed), and light reddish brown (5YR 6/3) (pressed) fibric material (peat); 85 percent fibers unrubbed, 80 percent fibers rubbed; weak very coarse subangular blocky structure; very friable; extremely acid; clear smooth boundary.

Oe1—12 to 32 inches; dark reddish brown (5YR 3/2) (broken face), dark reddish brown (5YR 2.5/2) (rubbed), and pink (5YR 7/3) (pressed) hemic material (mucky peat); 80 percent fibers unrubbed, 50 percent fibers rubbed; massive; very friable; extremely acid; gradual smooth boundary.

Oe2—32 to 72 inches; dark reddish brown (5YR 3/2) (broken face), dark reddish brown (rubbed), and pink (5YR 7/3) (pressed) hemic material (mucky peat); 75 percent fibers unrubbed, 30 percent fibers rubbed; massive; very friable; extremely acid.

The organic material is more than 51 inches thick. The surface tier commonly is fibric material (peat) derived from sphagnum moss. In some areas the organic material is largely undecomposed sphagnum moss, and in others it is stratified hemic material (mucky peat) and fibric material (peat) derived from both herbaceous plants and sphagnum moss. Reaction is extremely acid throughout the profile.

The O layers have hue of 5YR through 10YR, value of 2 through 6, and chroma of 1 through 4. The colors become darker upon brief exposure to air. The Oi layers have the highest value and chroma. In some pedons value, chroma, or both change by 0.5 to 1 unit after rubbing.

The subsurface and bottom tiers are dominantly hemic material (mucky peat) derived from herbaceous plants. In some pedons layers of fibric material (peat) or sapric material (muck) have a combined thickness of less than 10 inches in the lower two tiers. The organic material has pH of 4.5 or less in 0.01M calcium chloride, and pH commonly ranges from 3.5 to 4.5. Fragments of woody material ranging from about 1 to 8 inches in diameter are throughout the control section. Woody fibers make up less than 50 percent of the organic volume after rubbing.

Gretor Series

The Gretor series consists of moderately deep, somewhat poorly drained soils on side slopes and hilltops on bedrock-controlled landforms in the eastern part of the county and north of the Mohawk River. These soils occur mainly at an elevation of more than 1,000 feet. They formed in glacial till derived mainly from shale or siltstone and from small amounts of sandstone. Slopes range from 0 to 15 percent.

Gretor soils are commonly adjacent to shallow, poorly drained Torull soils and moderately deep, moderately well drained Ischua soils, both of which are on landforms similar to those of the Gretor soils. Some narrow areas of rock outcrops are near Gretor soils. Very deep Manheim and Kendaia (cool) soils are on nearby glacial till uplands, in areas where the till deposits are thicker.

Typical pedon of Gretor silt loam, in an area of Torull-Gretor complex, 1 to 6 percent slopes, in the town of Decatur, Otsego County, 3,000 feet east of the intersection of Fish and Game Road and Reservoir Road and 300 feet south of Reservoir Road, in an abandoned field; lat. 42°40´28´´ N. and long. 74°39´14´´ W.; USGS South Valley, New York, topographic quadrangle; NAD 1927:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; very friable; many fine and medium roots; 10 percent rock fragments; moderately acid; clear smooth boundary.

Bg1—9 to 17 inches; dark grayish brown (10YR 4/2) channery silt loam; common medium distinct light yellowish brown (2.5Y 6/4) and few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; weak medium subangular blocky structure; friable; common fine and few medium roots; common fine vesicular pores; 20 percent rock fragments; moderately acid; gradual smooth boundary.

Bg2—17 to 22 inches; grayish brown (2.5Y 5/2) channery silt loam; many (about 50 percent) fine and medium distinct dark yellowish brown (10YR 4/4) and common medium prominent dark brown (7.5YR 4/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable; few fine roots; common very fine and fine vesicular pores; 15 percent rock fragments; moderately acid; gradual smooth boundary.

C—22 to 29 inches; brown (10YR 5/3) channery loam; many fine and medium distinct dark yellowish brown (10YR 4/6) and common medium prominent gray (5Y 6/1) redoximorphic depletions; massive, with some inherited weak medium platelike structure directly above the bedrock; firm; few fine vesicular pores; 20 percent rock fragments; strongly acid; abrupt smooth boundary.

2R—29+ inches; dark gray (N 4/0), hard, fine grained sandstone bedrock; very fractured in the upper 6 inches.

The thickness of the solum ranges from 20 to 40 inches. The depth to bedrock also ranges from 20 to 40 inches. The content of rock fragments ranges from 5 to 15 percent, by volume, in the surface layer and from 5 to 35 percent in the subsoil and substratum. In unlimed areas reaction ranges from very strongly acid through moderately acid in the surface layer and subsoil and from strongly acid through slightly acid in the substratum, but pH in $CaCl_2$ is less than 5.0.

The Ap or A horizon has hue of 7.5YR through 2.5Y, value of 2 through 4, and chroma of 1 through 4. The fine-earth fraction is silt loam, silty clay loam, or loam. Structure is weak or moderate, fine or medium, granular or subangular blocky. Consistence is very friable or friable. Some pedons have a thin E horizon.

The B or Bg horizons are neutral in hue or have hue of 7.5YR through 5Y. They value of 3 through 6 and chroma of 0 through 3. The fine-earth fraction is silt loam, silty clay loam, clay loam, or loam. Structure is weak or moderate, fine through coarse, subangular or angular blocky. Consistence is friable. Most pedons have redoximorphic features below a depth of 9 inches, including common or many high-chroma concentrations.

The C horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam, clay loam, or silt loam. It is massive or has platelike structure inherited from the weathering bedrock. Consistence is generally firm, but in some pedons it is friable and a few pedons have a thin layer that is very firm. This horizon has few to many redoximorphic features.

The 2R layer consists of hard, gray or brownish shale, sandstone, or siltstone. The upper part of the bedrock commonly is fractured.

Halsey Series

The Halsey series consists of very deep, very poorly drained soils in nearly level areas along drainageways on outwash plains and low terraces. These soils formed glacial outwash with a medium content of lime. Slopes range from 0 to 3 percent.

Halsey soils commonly are adjacent to and form a drainage sequence with somewhat poorly drained Fredon soils and moderately well drained Castile and Phelps soils. Castile and Phelps soils are on the slightly higher landforms. Somewhat excessively drained Howard soils are adjacent to Halsey soils in the higher areas of outwash. Poorly drained Wayland soils, which formed in silty alluvial material, are on nearby flood plains.

Typical pedon of Halsey gravelly loam, in the town of Sangerfield, Oneida County, 0.5 mile south of U.S. Route 20 and 55 yards west of its intersection with New York Route 12:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak fine and medium granular; friable; 20 percent rock fragments; neutral; abrupt smooth boundary.

Bg—7 to 21 inches; dark grayish brown (10YR 4/2) gravelly loam; few fine faint dark gray (10YR 4/1) redoximorphic depletions and many fine prominent yellowish brown (10YR 5/8) and common fine prominent strong brown (7.5YR 5/8) redoximorphic concentrations; weak fine and medium subangular blocky structure; friable; 30 percent rock fragments; neutral; clear smooth boundary.

2C1—21 to 45 inches; dark grayish brown (10YR 4/2) gravelly loamy sand; massive; friable; 20 percent rock fragments; neutral; clear smooth boundary.

2C2—45 to 72 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam; single grain; loose; 40 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 40 inches. The depth to bedrock is generally more than 6 feet. The content of rock fragments ranges from 0 to 35 percent, by volume, in the solum and from 10 to 60 percent in the substratum. Reaction ranges from moderately acid through neutral in the solum and from slightly acid through moderately alkaline in the substratum. The depth to carbonates ranges from 30 to more than 60 inches.

The Ap horizon has hue of 10YR or 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. The fine-earth fraction is fine sandy loam, very fine sandy loam, loam, silt loam, or the mucky analogs of those textures. Structure is weak fine or moderate granular or very weak fine subangular blocky. Consistence is friable or very friable.

Some pedons have an E horizon. This horizon has hue of 10YR through 5Y or is neutral in hue. It has value of 5 or 6 and chroma of 0 or 1. Structure is platy, prismatic, or subangular blocky. Consistence is friable or firm when the soils are moist and hard when the soils are dry.

The Bg horizon is neutral in hue or has hue of 10YR through 5Y or of 5BG. It has value of 4 through 6 chroma of 0 through 2. Matrix colors have chroma of 2 or less because of iron depletions, and the horizon has distinct or prominent iron accumulations with chroma of 4 or more. The fine-earth fraction is fine sandy loam, very fine sandy loam, loam, or silt loam. Structure is subangular blocky or platy. Consistence is friable or firm when the soils are moist and hard or very hard when the soils are dry.

The 2C horizons have hue of 10YR through 5Y or are neutral in hue. They have value of 3 through 6 and chroma generally of 0 through 2. Chroma is 0 through 4 below a depth of 30 inches. The fine-earth fraction is sand through loamy fine sand above a depth of 40 inches and sand through fine sandy loam below that depth. The horizons commonly are stratified. Consistence is loose through firm.

Hamlin Series

The Hamlin series consists of very deep, well drained soils on flood plains. These soils formed in recent silty alluvial deposits that are derived dominantly from limestone, shale, siltstone, and fine grained sandstone and are medium in content of lime. Slopes range from 0 to 3 percent.

Hamlin soils are commonly adjacent to moderately well drained Otego soils, somewhat poorly drained Wakeville soils, and poorly drained or very poorly drained Wayland soils. Unadilla soils are on the adjacent lacustrine or old alluvial terraces above the flood plains. They formed in silts and very fine sands. Well drained or somewhat excessively drained Howard and Alton soils are on nearby outwash terraces.

Typical pedon of Hamlin silt loam, in the town of Whitestown, Oneida County, 0.25 mile west of River Road and 25 feet south of the Mohawk River:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine and medium granular structure; very friable; many fine and medium roots; slightly acid; abrupt smooth boundary.

Bw1—8 to 17 inches; very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) silt loam; moderate medium and coarse subangular blocky structure; friable; common fine roots; moderately acid; clear wavy boundary.

Bw2—17 to 31 inches; dark brown (10YR 3/3) silt loam; moderate medium subangular blocky structure; friable; few fine and very fine roots; slightly acid; clear smooth boundary.

C—31 to 72 inches; brown (10YR 4/3) silt loam; few fine faint dark gray (10YR 4/1) redoximorphic depletions; massive; friable; neutral.

The thickness of the solum ranges from 24 to 48 inches. The depth to carbonates and to strongly contrasting material is more than 40 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 5 percent, by volume, above a depth of 40 inches and from 0 to 10 percent below that depth. Reaction ranges from strongly acid through neutral to a depth of 20 inches and from moderately acid through slightly alkaline below that depth.

The Ap horizon has hue of 5YR through 10YR, value of 3 or 4, and chroma of 1 through 3. Dry value is 6 or 7. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate granular. Consistence is very friable or friable.

The Bw horizons have hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate granular, subangular blocky, or prismatic.

The C horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from silt loam through fine sandy loam. The horizon is stratified in some pedons. It is massive or has weak platy structure derived from fine stratification.

Herkimer Series

The Herkimer series consists of very deep, moderately well drained or well drained soils on alluvial fans. These soils are dominantly moderately well drained and formed in water-sorted shale and gravel deposits derived from alluvium and outwash. Slopes range from 3 to 15 percent.

Herkimer soils are commonly adjacent to somewhat excessively drained or well drained Chenango, Alton, and Howard soils on the higher outwash terraces. They typically have more shale fragments than Chenango, Alton, and Howard soils. Well drained Hamlin, moderately well drained Otego, and somewhat poorly drained Wakeville soils are commonly on the adjacent flood plains. They have fewer rock fragments than the Herkimer soils.

Typical pedon of Herkimer channery silt loam, 8 to 15 slopes, in the town of Western, Oneida County, 0.5 mile east of the intersection of Carmichael Hill Road and Metzler Hill Road and 1,000 feet north of Carmichael Hill Road:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) channery silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and medium roots; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—8 to 26 inches; dark grayish brown (10YR 4/2) channery silt loam; moderate medium subangular blocky structure parting to moderate medium platy; friable; many fine and medium roots; 15 percent rock fragments; slightly acid; clear smooth boundary.

Bw2—26 to 35 inches; dark grayish brown (10YR 4/2) channery silt loam; common medium prominent brownish yellow (10YR 6/6) redoximorphic concentrations and weak fine faint light brownish gray (10YR 6/2) redoximorphic depletions; moderate medium subangular blocky structure parting to moderate medium platy; friable; common fine and medium roots; 20 percent rock fragments; slightly acid; clear smooth boundary.

C1—35 to 40 inches; dark grayish brown (10YR 4/2) channery silt loam; many medium prominent brownish yellow (10YR 6/6) redoximorphic concentrations and many medium distinct light brownish gray (10YR 6/2) redoximorphic depletions; massive; friable; few fine roots; 20 percent rock fragments; neutral; clear smooth boundary.

C2—40 to 72 inches; very dark grayish brown (10YR 3/2) channery loam; massive; friable; 25 percent rock fragments; slightly alkaline; slightly effervescent below a depth of 60 inches.

The thickness of the solum ranges from 20 to 48 inches. The depth to carbonates ranges from 40 to 75 inches. The depth to bedrock is more than 60 inches. The content of gravel, cobbles, and channers ranges from 0 to 35 percent, by volume, throughout the profile. The content of dark shale fragments ranges, by volume, from 2 to 35 percent in the upper part of the solum and from 20 to 60 percent in the lower part of the subsoil and in the substratum. The average content of rock fragments in the particle-size control section is less than 35 percent.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction is silt loam or loam. Structure is weak or moderate, medium or fine granular. Consistence is friable or very friable. Reaction ranges from strongly acid through neutral.

The Bw horizons have hue of 10YR or 2.5Y, value of 2 through 4, and chroma of 1 through 4. The fine-earth fraction is silt loam, loam, or fine sandy loam. Structure is weak or moderate, very fine through medium subangular blocky. Consistence is friable or very friable. Reaction ranges from strongly acid through neutral, and pH is more than pH 6.0 below a depth of 30 inches.

The C horizons have hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or fine sandy loam. The horizon is massive or has weak or moderate, medium or thick platelike divisions. Consistence is friable or loose. Reaction ranges from neutral through moderately alkaline.

Honeoye Series

The Honeoye series consists of very deep, well drained soils on till plains and drumlins (fig. 13) in the uplands. These soils formed in loamy glacial till derived mainly from limestone and calcareous shale. Slopes range from 2 to 45 percent.

Honeoye soils are adjacent to and in a drainage sequence with moderately well drained Lima and somewhat poorly drained Appleton and Kendaia soils in slight depressions and the flatter areas. Honeoye soils are near poorly drained Lyons soils in drainageways and depressions. They commonly are near Lansing soils and moderately well drained Cazenovia and Conesus soils, which are in the same landscape positions as the Honeoye soils. Cazenovia soils have more clay in the subsoil than the Honeoye soils, and Lansing and Conesus soils are deeper to calcareous material.

Typical pedon of Honeoye silt loam, 8 to 15 percent slopes, in the town of Kirkland, Oneida County, 0.5 mile east of Skyline Drive and 50 yards south of Roberts Road:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium and fine granular structure; friable, slightly sticky, nonplastic; common fine and very fine roots; common fine and very fine pores; 10 percent rock fragments, including less than 3 percent fragments more than 3 inches in diameter; slightly acid; abrupt smooth boundary.

B/E—7 to 17 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure parting to moderate fine and medium granular; friable; common fine roots; few faint patchy clay films lining pores (B part); grayish brown (10YR 5/2 dry) silt and fine sand coatings, 1 millimeter thick, on faces of peds (E part);

Figure 13.—Drumlins, which are shaped like inverted spoons, are common features on the landscape in the southern part of Oneida County. Honeoye soils are in the foreground, and Nellis and Lansing soils are in the background.

10 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; neutral; gradual wavy boundary.

Bt—17 to 25 inches; brown (10YR 4/3) gravelly silt loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; many very fine, discontinuous interstitial pores; common faint clay films on faces of peds and lining pores; 15 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; neutral; gradual wavy boundary.

Cd—25 to 72 inches; brown (10YR 4/3) very gravelly silt loam; massive; firm, slightly sticky, slightly plastic; few very fine roots; few very fine, discontinuous interstitial pores; 50 percent rock fragments, including 8 percent fragments more than 3 inches in diameter; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 32 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 16 to 32 inches. Rock fragments are mainly gravel, cobbles, and channers of limestone and shale and lesser amounts of sandstone and siltstone. The content of rock fragments ranges, by volume, from 5 to 35 percent in the solum and from 15 to 65 percent in the substratum. It includes as much as 8 percent fragments more than 3 inches in diameter.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. Structure is weak or moderate, medium or fine, granular or subangular blocky. Consistence is friable or very friable. Reaction ranges from moderately acid through neutral. Some unplowed pedons have an A or E horizon, which has textures similar to those of the Ap horizon.

The B/E horizon has properties similar to those of the Bt horizon in the interiors of the peds. The E part of the horizon consists of silty ped exteriors that have hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 2 or 3.

The Bt horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or clay loam, and the content of clay ranges from 18 to 28 percent. Structure is weak or moderate, fine through coarse subangular blocky. Consistence is friable or firm. Reaction ranges from moderately acid through slightly alkaline.

The Cd or C horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is fine sandy loam, loam, or silt loam. The horizon is massive or has weak or moderate platelike divisions. In some pedons it has redoximorphic features. Consistence is firm or very firm. Reaction is slightly alkaline or moderately alkaline. In some pedons a friable C horizon as much as 10 inches thick overlies the Cd horizon.

Howard Series

The Howard series consists of very deep, somewhat excessively drained or well drained soils on outwash plains and valley trains and on rolling to steep kames and terraces. These soils formed in water-sorted deposits of sand and gravel that are high in content of lime and are derived from glacial outwash. Slopes range from 0 to 45 percent.

Howard soils are commonly adjacent to and form a drainage sequence with moderately well drained Phelps soils, somewhat poorly drained Fredon soils, and very poorly drained Halsey soils. Well drained Lansing and Honeoye soils are commonly adjacent to Howard soils on nearby glacial till landforms. In some areas Howard soils are adjacent to Chenango and Alton soils. They are similar to Chenango and Alton soils but have more limestone fragments and are higher in content of lime.

Typical pedon of Howard gravelly loam, 0 to 3 percent slopes, in the town of Bridgewater, Oneida County, 2 miles north of the village of Bridgewater and 150 feet east of Route 8:

Ap—0 to 11 inches; dark brown (10YR 3/3) gravelly loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; common fine and few medium roots; 15 percent rock fragments, including 2 percent fragments more than 3 inches in diameter; moderately acid; abrupt smooth boundary.

Bt/E—11 to 20 inches; dark yellowish brown (10YR 4/4) very gravelly loam; weak fine and medium subangular blocky structure; very friable; common fine and few medium roots; many fine vesicular and few fine tubular pores; thin patchy clay films in tubular pores and on some faces of peds (B part); on faces of peds, brown (10YR 5/3 moist) and light gray (10YR 7/2 dry) coatings of silt loam and fine sandy loam 1 millimeter thick (E part); 35 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; moderately acid; clear wavy boundary.

Bt1—20 to 29 inches; dark brown (10YR 3/3) very gravelly loam; weak fine and medium subangular blocky structure; friable, slightly sticky; brown (10YR 5/3) faces of peds in the top 3 inches of the horizon; few fine and medium roots; many fine vesicular and few fine tubular pores; clay films in tubular pores and bridging sand grains; 45 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; moderately acid; clear wavy boundary.

Bt2—29 to 44 inches; dark brown (10YR 3/3) very gravelly sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; many fine vesicular and common fine tubular pores; clay films in tubular pores and bridging sand grains; 55 percent rock fragments, including 15 percent fragments more than 3 inches in diameter; neutral; gradual wavy boundary.

C—44 to 75 inches; dark brown (10YR 3/3) extremely gravelly sandy loam; massive; loose, slightly sticky; dark grayish brown (10YR 4/2) pendants of lime at the base of rock fragments; few fine and medium roots; many fine vesicular and tubular pores; many thin clay films coating pebbles and cobbles; 60 percent rock fragments, including 20 percent fragments more than 3 inches in diameter; strongly effervescent; moderately alkaline; gradual wavy boundary.

2C—75 to 100 inches; grayish brown (10YR 5/2), stratified loamy sand, sand, and extremely gravelly sand; single grain; loose; strongly effervescent; moderately alkaline.

The thickness of the solum and the depth to carbonates range from 24 to 60 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, in the surface layer, from 15 to 55 percent in the upper part of the subsoil, from 35 to 60 percent in the lower part of the subsoil, and from 45 to 70 percent in the substratum. Reaction ranges from strongly acid through neutral in the solum and from neutral through moderately alkaline in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate, fine or medium granular. Consistence is very friable or friable.

Some pedons have an E horizon. This horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak, fine or medium granular, blocky, or platy, or the horizon is massive. Consistence is very friable, friable, or firm. In some pedons the E horizon has been replaced by a BE horizon, which has chroma of 4 through 6. Some pedons have a EB horizon, which has granular structure.

The B/E horizon has very weak through moderate, fine or medium, granular, subangular blocky, or platy structure. The fine-earth fraction and color are transitional between the E horizon and Bt horizons. Consistence is very friable or friable. Some pedons also have an E/B horizon.

The Bt horizons have hue of 5YR through 10YR, value of 2 through 5, and chroma of 3 or 4. The fine-earth fraction is sandy loam, fine sandy loam, sandy clay loam, clay loam, loam, or silt loam. Structure is weak or moderate, fine through coarse, angular or subangular blocky. Consistence is very friable through firm.

The C horizon is as much as 12 inches thick. It has hue of 2.5YR through 5Y, value of 3 through 6, and chroma of 2 through 4. The fine-earth fraction is sandy loam or fine sandy loam. In some pedons it does not have free carbonates.

The 2C horizon has hue of 2.5YR through 5Y, value of 3 through 6, and chroma of 2 through 4. The fine-earth fraction ranges from sand through loamy fine sand, and the horizon commonly is stratified.

Ischua Series

The Ischua series consists of moderately deep, moderately well drained soils on hilltops and side slopes on bedrock-controlled landforms in the eastern part of the county, north of the Mohawk River, mainly at an elevation of more than 1,000 feet. These soils formed in glacial till derived mainly from shale or siltstone and from small amounts of sandstone. Slopes range from 3 to 25 percent.

Ischua soils are commonly adjacent to somewhat poorly drained Gretor soils and to shallow, poorly drained or somewhat poorly drained Torull soils. Very deep, moderately well drained Conesus soils and very deep, somewhat poorly drained Manheim and Kendaia (cool) soils are in nearby areas of glacial till.

Typical pedon of Ischua silt loam, 3 to 8 percent slopes, in the town of Deerfield, Oneida County, 0.75 mile east of the intersection of Smith Hill Road and Grace Road and 10 yards north of Smith Hill Road:

A—0 to 3 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine and common coarse roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

AB—3 to 6 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; very friable; many fine and medium and few coarse roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bw1—6 to 18 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; very friable; common fine and few medium and coarse roots; 10 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—18 to 23 inches; brownish yellow (10YR 6/6) channery silt loam; few fine faint distinct yellowish brown (10YR 5/8) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable; common fine roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

BC—23 to 33 inches; brown (10YR 4/3 and 5/3) very channery silt loam; common fine faint grayish brown (10YR 5/2) redoximorphic depletions; weak very coarse prismatic structure parting to moderate medium and thick platy; firm and slightly brittle; few fine roots; 35 percent rock fragments in the upper part of the horizon and 50 percent in the lower part; strongly acid; gradual wavy boundary.

2Cr—33 to 39 inches; 40 percent brown (10YR 4/3) extremely channery silt loam mixed with 60 percent very dark gray (10YR 3/1) shale particles; moderate thick inherited platy structure; firm; strongly acid; clear wavy boundary.

2R—39 inches; moderately hard shale bedrock; horizontally bedded.

The thickness of the solum (or the depth to bedrock) ranges from 20 to 40 inches. The content of rock fragments, mainly channers and flagstones, ranges from 5 to 35 percent, by volume, in the upper part of the solum and from 10 to 60 percent in the lower part of the solum and in the substratum. The weighted average throughout the profile is less than 35 percent.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4 (6 or more dry), and chroma of 1 through 3. The fine-earth fraction is silt loam or loam. Reaction ranges from very strongly acid through moderately acid. The A horizon is 2 to 5 inches thick.

The AB horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam or loam. Reaction ranges from very strongly acid through moderately acid.

The Bw horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 3 through 6. The fine-earth fraction is silt loam, loam, or silty clay loam. Structure is weak or moderate, fine through coarse subangular blocky. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

Some pedons have a BC horizon. This horizon has hue of 5YR through 5Y, value of 4 through 6, and chroma of 1 through 6. The fine-earth fraction is silt loam, loam, or silty clay loam. Structure is subangular blocky or platy or weak prismatic. Reaction ranges from very strongly acid through slightly acid.

Some pedons have a C horizon, which is massive and has textures and colors similar to those of the BC horizon.

The 2Cr horizon has hue of 5YR through 5Y, value of 4 through 6, and chroma of 1 through 6. The fine-earth fraction is silt loam, loam, or silty clay loam. The horizon has platelike divisions inherited from the underlying bedrock. Reaction ranges from very strongly acid through slightly acid.

The 2R layer is shale, siltstone, or sandstone that is horizontally bedded and commonly is interbedded.

Jebavy Series

The Jebavy series consists of very deep, poorly drained soils in low areas on lake plains and outwash plains. These soils formed in water-sorted glaciofluvial deposits. They have a cemented ortstein layer in the subsoil. Slopes range from 0 to 2 percent.

Jebavy soils are commonly adjacent to excessively drained Windsor and moderately well drained Covert soils in the higher landform positions. They are near somewhat poorly drained Wareham soils, which do not have a cemented ortstein layer in the subsoil. Very poorly drained Adrian soils are in nearby bogs and depressions. They have 16 to 51 inches of organic material.

Typical pedon of Jebavy sand, in the city of Rome, Oneida County, 1 mile southwest of Route 69 and 300 yards south of Humaston Road, along a dirt road that becomes a foot trail, 25 feet east of the foot trail:

Oa—0 to 2 inches; very dark gray (N 3/0), highly decomposed organic material; some dark reddish brown (5YR 2.5/2); a thin leaf litter on the surface; 20 percent fibers unrubbed, less than 5 percent fibers rubbed; 40 percent mineral material (silts); weak fine granular structure; very friable; many fine and few medium and coarse roots; extremely acid; abrupt smooth boundary.

E—2 to 10 inches; brown (7.5YR 5/2) sand; single grain; very friable; many fine and few medium roots; extremely acid; abrupt smooth boundary.

Bhs—10 to 12 inches; black (5YR 2.5/1) sand; weak fine and medium subangular blocky structure; friable; about 50 percent cemented parts; common fine and very fine roots; extremely acid; abrupt smooth boundary.

Bsm—12 to 14 inches; dark reddish brown (5YR 3/4) sand; indurated and about 95 percent (continuously) cemented; very strongly acid; abrupt smooth boundary.

Bsc—14 to 24 inches; mixed 45 percent strong brown (7.5YR 5/6) and 35 percent dark red (2.5YR 3/6) sand; few fine prominent pinkish gray (7.5YR 6/2) redoximorphic depletions; 20 percent of the horizon consisting of dark reddish brown (2.5YR 3/4) concretions of firm and brittle sesquioxides; massive; friable; very strongly acid; clear smooth boundary.

BC—24 to 32 inches; brown (7.5Y 5/4) fine sand; common fine distinct yellowish brown (10YR 5/6) redoximorphic concentrations; weak medium subangular blocky structure; very friable; very strongly acid; gradual smooth boundary.

C—32 to 72 inches; brown (10YR 4/3) fine sand; single grain; firm; strongly acid.

The thickness of the solum ranges from 20 to 50 inches. The content of rock fragments, mainly fine gravel, ranges from 0 to 5 percent, by volume, throughout the profile. Reaction ranges from extremely acid through strongly acid in the solum.

Some pedons have an O horizon as much as 4 inches thick.

Some pedons have an A horizon. This horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 through 4 and chroma of 0 through 2. Pedons in cultivated areas have an Ap horizon. This horizon has hue of 10YR, value of 2 through 4, and chroma of 1 or 2. The fine-earth fraction generally is sand or fine sand but in some pedons has the mucky analogs of those textures.

The E horizon has hue of or 7.5YR or 10YR, value of 4 through 7, and chroma of 1 or 2. The fine-earth fraction is sand or fine sand.

Some pedons have a Bhsm horizon. This horizon has hue of 2.5YR through 7.5YR and value and chroma of 1 through 3. It is weak to indurated. More than 90 percent of the horizon is cemented ortstein. The fine-earth fraction is sand or fine sand.

The Bsm horizon, where present, is as much as 3 inches thick. It has value and/or chroma of 4.

The Bs or Bsc horizon has hue of 2.5YR through 10YR, value of 3 through 6, and chroma of 4 through 6. Cemented ortstein material makes up 0 to 70 percent of the horizon. The fine-earth fraction is sand or fine sand.

The BC horizon has hue of 2.5YR through 10YR, value of 3 through 6, and chroma of 4 through 6. The fine-earth fraction is sand or fine sand.

The C horizon has hue of 7.5YR or 10YR, value of 4 through 7, and chroma of 2 through 6. The fine-earth fraction is sand or fine sand. Reaction ranges from strongly acid through slightly acid.

Kalurah Series

The Kalurah series consists of very deep, moderately well drained soils on glaciated uplands. They soils formed in loamy, calcareous till derived from shale and limestone. Slopes range from 3 to 45 percent.

Kalurah soils commonly are near and form a drainage sequence with well drained Pyrities soils, somewhat poorly drained Malone soils, and poorly drained or very poorly drained Runeberg soils. Pyrities soils are on the same landforms as the Kalurah soils, and Malone and Runeberg soils in the lower areas and in depressions. Pinckney soils are similar to Kalurah soils but have a very firm layer in the subsoil.

Typical pedon of Kalurah silt loam, 3 to 8 percent slopes, in the town of Steuben, Oneida County, 1 mile north of Steuben Valley Road and 40 feet west of Steuben Road, in a cultivated field:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium and fine subangular blocky structure parting to moderate medium and fine granular; very friable; many very fine, fine, and medium roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—9 to 18 inches; brown (10YR 4/3) silt loam; many very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) organo-argillans on faces of peds; moderate medium subangular blocky structure parting to moderate fine and medium granular; friable; common fine and very fine roots; many very fine and few vesicular pores; 5 percent rock fragments, including less than 1 percent fragments more than 3 inches in diameter; slightly acid; clear smooth boundary.

Bw2—18 to 34 inches; brown (10YR 4/3) loam; common fine and medium faint yellowish brown (10YR 5/4) and few fine faint light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) redoximorphic depletions; weak medium and coarse subangular blocky structure in the upper part of the horizon (from 18 to 28 inches), grading to weak very coarse prismatic parting to weak medium and coarse subangular blocky structure in the lower part; yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) prism face exteriors and brown (10YR 5/3) interiors; friable, slightly sticky, slightly plastic; few fine roots; many fine vesicular and few fine tubular pores, some with thin argillans; 10 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; slightly acid; clear wavy boundary.

Bw3—34 to 49 inches; brown (10YR 4/3) loam; many fine faint dark grayish brown (10YR 4/2) redoximorphic depletions and many fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak coarse prismatic structure parting to weak coarse subangular blocky; friable, slightly sticky, slightly plastic; few fine and very fine roots; common fine tubular pores; 10 percent rock fragments, including 2 percent fragments more than 3 inches in diameter; slightly acid; gradual smooth boundary.

C1—49 to 66 inches; brown (10YR 5/3 and 4/3) loam with yellowish brown (10YR 5/4) stains; massive; friable, slightly sticky; very few fine and very fine roots; common fine vesicular and few fine tubular pores; 10 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; neutral; gradual smooth boundary.

C2—66 to 72 inches; brown (10YR 5/3) gravelly silt loam; weak thin and medium platelike divisions; firm; 15 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; slightly effervescent in the upper part of the horizon grading to strongly effervescent in the lower part; moderately alkaline.

The thickness of the solum ranges from 30 to 50 inches. The depth to bedrock is more than 60 inches. The depth to carbonates is more than 40 inches. The content of rock fragments, mainly gravel, ranges from 5 to 35 percent, by volume, in the solum and from 5 to 50 percent in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 2 through 4, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from moderately acid through neutral.

The Bw horizons have hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 through 6. Chroma of 2 in the matrix or on faces of peds occurs only at a depth of more than 20 inches. The fine-earth fraction commonly is fine sandy loam, sandy loam, loam, or silt loam. Reaction is slightly acid or neutral. Some pedons have a BC horizon.

The C horizons have hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction generally is fine sandy loam, sandy loam, or loam, but some pedons have thin layers of loamy sand. Consistence is friable or firm. Reaction ranges from neutral through moderately alkaline.

Kendaia Series

The Kendaia series consists of very deep, somewhat poorly drained soils on toeslopes and footslopes and in depressional areas on glacial uplands, mainly in the central and southern parts of the county, both south and north of the Mohawk River. These soils formed in firm, calcareous glacial till. Slopes range from 0 to 8 percent.

Kendaia soils are commonly adjacent to and form a drainage sequence with well drained Lansing and Nellis soils, moderately well drained Conesus and Amenia soils, and poorly drained Lyons soils. They are near moderately well drained Lima soils, which are on the same landforms as the Kendaia soils but are on the more convex parts of the landforms.

Typical pedon of Kendaia silt loam, 3 to 8 percent slopes, in the town of Westmoreland, Oneida County, 50 feet north of Skinner Road and 100 feet west of Jenkins Road:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; common fine and very fine roots; 10 percent rock fragments; slightly acid; abrupt smooth boundary.

Bw1—9 to 13 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common fine and very fine roots; 10 percent rock fragments; neutral; clear smooth boundary.

Bw2—13 to 32 inches; dark yellowish brown (10YR 4/4) silt loam; many medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; weak medium and coarse subangular blocky structure; few very fine roots; friable; light brownish gray (2.5Y 6/2) faces of peds; 10 percent rock fragments; neutral; clear smooth boundary.

C1—32 to 38 inches; brown (7.5YR 4/2) gravelly silt loam; common medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; massive; firm; 20 percent rock fragments; slightly effervescent; slightly alkaline; clear smooth boundary.

C2—38 to 72 inches; brown (10YR 4/3) gravelly silt loam; massive; firm; 20 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 18 to 36 inches. The depth to carbonates ranges from 15 to 38 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 5 to 30 percent, by volume, in the solum and from 20 to 50 percent in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction ranges from fine sandy loam through silt loam. Structure is granular. Consistence is friable. Reaction ranges from moderately acid through neutral.

The Bw horizons have hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 4. Chroma of 2 is either in the matrix or on faces of peds above a depth of 20 inches. These horizons have common or many redoximorphic features that generally have higher chroma than the matrix. The fine-earth fraction is fine sandy loam, loam, or silt loam, and the content of clay averages more than 18 percent. Structure is very weak through moderate subangular blocky. Reaction ranges from slightly acid through slightly alkaline.

The C horizons have hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. The horizons are massive or have platelike divisions. Consistence is firm or very firm. Reaction is slightly alkaline or moderately alkaline.

Knickerbocker Series

The Knickerbocker series consists of very deep, somewhat excessively drained soils at the upper terrace levels of valley floors, outwash plains, and eskers in the central part of the county. These soils formed in glacial outwash or sandy deltaic material derived mainly from sandstone and some siltstone. Slopes range from 0 to 15 percent.

Knickerbocker soils are commonly adjacent to Chenango and Alton soils. Chenango and Alton soils have more rock fragments than the Knickerbocker soils. Also, Alton soils are less acid. Moderately well drained Castile soils, which have more rock fragments than the Knickerbocker soils, are in some nearby slightly concave areas. In the colder parts of the county, Adams soils, which have a reddish brown spodic horizon, are near Knickerbocker soils in few areas.

Typical pedon of Knickerbocker fine sandy loam, 3 to 8 percent slopes, in the town of Annsville, Oneida County, 1.5 miles northeast of Route 69 on Lee Center Road and 50 feet south of the road:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable with some firmness in the lower part of the horizon; many fine and few medium roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—9 to 16 inches; strong brown (7.5YR 5/6) fine sandy loam; weak fine and medium subangular blocky structure; very friable; common fine roots; 3 percent rock fragments; moderately acid; gradual wavy boundary.

Bw2—16 to 30 inches; dark yellowish brown (10YR 4/4) loamy fine sand; very weak fine and medium subangular blocky structure; very friable; common fine roots; 1 percent rock fragments; moderately acid; clear wavy boundary.

C—30 to 72 inches; brown (10YR 4/3) fine sand; single grain; loose; few fine roots; 1 percent rock fragments; moderately acid.

The thickness of the solum ranges from 25 to 44 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mainly gravel, ranges from 0 to 15 percent, by volume, in the solum and from 0 to 30 percent in the substratum. Unless the soils have been limed, reaction ranges from very strongly acid through moderately acid.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. Pedons in unplowed areas have a thin A horizon, which has value of 2 or 3 and chroma of 1 or 2. The fine-earth fraction is fine sandy loam or sandy loam. Structure is weak or moderate, fine or medium granular. Consistence is friable or very friable.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 3 through 6. The fine-earth fraction is fine sandy loam or sandy loam above a depth of 20 inches and loamy fine sand or loamy sand below that depth. The dominant sand size is fine sand. Structure is weak or very weak subangular blocky or granular. Consistence is friable or very friable.

The C horizon has hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. In some pedons it has high-chroma redoximorphic features below a depth of 40 inches. The fine-earth fraction ranges from loamy fine sand through sand.

Lairdsville Series

The Lairdsville series consists of moderately deep, well drained or moderately well drained soils on bedrock-controlled glacial till uplands. These soils are dominantly well drained and formed mainly in clayey glacial till. Slopes range from 3 to 45 percent.

Lairdsville soils are commonly adjacent to Galway soils and to moderately well drained Aurora soils. They have more clay than Galway and Aurora soils and are in similar landscape positions. Somewhat poorly drained Greene soils and shallow, poorly drained Tuller soils are near Lairdsville soils in the flatter or more concave areas. Very deep, moderately well drained Lima and Cazenovia soils and a few areas of shallow, well drained Farmington and Arnot soils also are near Lairdsville soils.

Typical pedon of Lairdsville silt loam, 3 to 8 percent slopes, in the town of Vernon, Oneida County, 40 yards southwest of Sconondaga Creek, 30 feet east of Houck Road, and one-eighth of a mile north of the intersection of College Hill Road and Fancett Road:

Ap—0 to 8 inches; dark reddish gray (5YR 4/2) silt loam; strong fine subangular blocky structure; friable; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—8 to 16 inches; reddish brown (5YR 4/3) silty clay loam; strong medium subangular blocky structure; slightly firm; common fine roots; many distinct silt and clay coatings, 1 to 2 millimeters thick, on vertical and horizontal faces of peds and in root channels; moderately acid; clear wavy boundary.

Bt2—16 to 23 inches; reddish brown (2.5YR 4/4) silty clay loam; strong coarse subangular blocky structure; firm; common fine roots; many distinct clay coatings on vertical faces of peds, ped interiors, and root channels; 5 percent pale green (5G 6/2), weathered shale fragments in the lower part of the horizon; moderately acid; clear wavy boundary.

2Cr—23 to 26 inches; dark reddish brown (2.5YR 3/4) shale bedrock that is weathered and can be easily cut by a spade; neutral.

2R—26 inches; dark reddish brown (2.5YR 3/4), hard shale bedrock.

The thickness of the solum (or the depth to bedrock) ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 35 percent, by volume, throughout the profile. These are dominantly shale fragments with varying amounts of limestone, siltstone, and sandstone.

The Ap horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is granular or fine subangular blocky. Consistence is friable or firm. Reaction ranges from moderately acid through neutral.

The Bt horizons generally have hue of 10R through 10YR, value of 3 through 5, and chroma of 2 through 6. Below a depth of 20 inches, hue is 5YR or redder. In some pedons the Bt2 horizon has few or common faint redoximorphic features with chroma higher than that in the matrix. The fine-earth fraction is clay loam, silty clay loam, silty clay, or clay averaging between 35 and 60 percent clay. Silt coatings occur in the upper 3 to 6 inches of the B horizon. Distinct clay coatings occur on both the vertical and horizontal faces of peds in the Bt2 horizon. Structure is moderate or strong angular or subangular blocky or moderate or strong medium prismatic. Reaction ranges from moderately acid through slightly alkaline, and the Bt2 horizon is calcareous in some pedons.

Some pedons have a thin C or 2C horizon between the Bt horizon and the 2R layer. This thin horizon is similar in color to the B horizon, but it is massive or has weak platelike divisions. Reaction ranges from neutral through moderately alkaline, and the horizon is calcareous in some pedons.

The Cr or 2Cr horizon, where present, is dominantly shale that can be readily cut by a spade. It is calcareous in some pedons.

The 2R layer is dominantly hard shale bedrock, but it may include sandstone, siltstone, limestone, or dolomite.

Lamson Series

The Lamson series consists of very deep, poorly drained or very poorly drained soils in nearly level depressions on glacial lake plains in the southern and west-central parts of the county. These soils formed in water-sorted glaciofluvial, glaciolacustrine, and deltaic sediments dominated by very fine sand and fine sand. Slopes range from 0 to 3 percent.

Lamson soils are commonly adjacent to well drained Arkport and somewhat poorly drained Minoa soils, which are in the higher landscape positions and have less organic matter in the surface layer than the Lamson soils. Lamson soils are near Canandaigua soils, which are higher in content of silt and clay than the Lamson soils.

Palms soils in nearby bogs. They have organic deposits between 16 and 51 inches thick.

Typical pedon of Lamson fine sandy loam, in the town of Vernon, Oneida County, 16 feet west of Route 46, near Stacy's Basin, and 200 feet north of Doxtator Road:

Ap—0 to 9 inches; very dark gray (10YR 3/1) fine sandy loam; moderate fine granular structure; very friable; common medium and fine roots; moderately acid; abrupt smooth boundary.

E—9 to 13 inches; brown (10YR 5/3) loamy fine sand; many medium distinct light gray (10YR 7/1) and common medium distinct very dark gray (10YR 3/1) redoximorphic depletions and many medium faint brown (7.5YR 5/4) and many medium prominent reddish brown and yellowish red (5YR 5/4 and 5/6) redoximorphic concentrations; weak fine and medium subangular blocky structure; very friable; very few fine roots; common tubular pores; moderately acid; clear wavy boundary.

Bw—13 to 18 inches; dark brown (10YR 4/3) fine sandy loam; many fine and medium distinct reddish gray (5YR 5/2) redoximorphic depletions and few fine and medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations; moderate fine and medium subangular blocky structure in the upper part of the horizon and weak fine and medium subangular blocky structure in the lower part; friable; very few fine roots; very dark gray (10YR 3/1) coatings along root channels; common tubular pores; moderately acid; clear wavy boundary.

Bg1—18 to 22 inches; brown (7.5YR 5/2) fine sandy loam with thin, discontinuous lamellae of sandy clay loam one-eighth to one-fourth inch thick; few fine prominent strong brown (7.5YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; very few fine roots; many tubular pores; slightly acid; gradual wavy boundary.

Bg2—22 to 36 inches; pinkish gray (7.5YR 6/2) loamy fine sand with thin, discontinuous lamellae of silty clay loam one-eighth to one-fourth inch thick; many fine faint gray (10YR 6/1) redoximorphic depletions; weak very coarse subangular blocky structure; very friable; very few fine roots; slightly acid; clear wavy boundary.

C—36 to 72 inches; light brownish gray (10YR 6/2) loamy fine sand with thin, discontinuous lamellae of silty clay loam one-eighth to one-fourth inch thick; few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations; massive; friable; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 30 to 50 inches. The depth to carbonates ranges from 24 to 60 inches. The depth to bedrock is more than 60 inches. Rock fragments commonly do not occur, but in some pedons subhorizons have as much as 15 percent pebbles, by volume. Reaction ranges from moderately acid through slightly alkaline in the upper part of the solum and from slightly acid through moderately alkaline in the lower part of the solum and in the substratum.

The Ap or A horizon has hue of 7.5YR through 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 3. The fine-earth fraction is mainly fine sandy loam, loamy fine sand, loamy very fine sand, very fine sandy loam, loam, or silt loam. In some pedons it has the mucky analogs of those textures. Consistence is very friable or friable. Some pedons have O horizons, which are as much as 7 inches thick.

The E horizon has hue of 7.5YR through 2.5Y, value of 5 or 6, and chroma of 1 through 4. It has redoximorphic features. The fine-earth fraction ranges from very fine sandy loam through loamy fine sand. Structure is weak granular, subangular blocky, or platy, or the horizon is single grain. Consistence is friable, very friable, or loose.

The B horizons have hue of 5YR through 5Y, value of 4 through 6, and chroma of 1 through 4. The fine-earth fraction is dominantly very fine sandy loam or fine sandy loam. Heavier and lighter textures occur in subhorizons covering the extreme range from fine sand through sandy clay loam and silty clay loam. Structure is weak subangular blocky, platy, or coarse prismatic. Consistence is friable or very friable. The horizons have many redoximorphic features.

Some pedons have a BC horizon. This horizon is similar in color and texture to Bw horizon. It is massive or single grain or has platy structure. Consistence is friable or firm. The horizon has free carbonates in some pedons.

The C horizon has hue of 5YR through 5Y or is neutral in hue. It has value of 4 through 7 and chroma of 0 through 4. Thin layers of varved material range from fine sand through silty clay loam. The material is massive or single grain within individual layers. Consistence is mainly very friable or friable but is firm in some pedons.

Lansing Series

The Lansing series consists of very deep, well drained soils on glaciated uplands. These soils formed in loamy glacial till derived mainly from calcareous shale and limestone and from lesser amounts of siltstone and sandstone. Slopes range from 3 to 45 percent.

Lansing soils are adjacent to and in a drainage sequence with moderately well drained Conesus soils, somewhat poorly drained Appleton and Kendaia soils, and poorly drained Lyons soils. They are near Honeoye soils, which are calcareous above a depth of 32 inches. They also are near moderately well drained Cazenovia soils, which have a higher content of clay than the Lansing soils. Moderately deep, well drained Manlius soils are on nearby bedrock-controlled landscapes.

Typical pedon of Lansing silt loam, 15 to 25 percent slopes, in the town of Sangerfield, Oneida County, 1,500 feet north of Mason Road and 3,500 feet east of Pleasant Valley Road:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium subangular blocky structure parting to moderate medium granular; friable; many fine and common medium roots; many fine pores; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

BE—9 to 13 inches; brown (10YR 5/3) silt loam; moderate medium subangular blocky structure parting to moderate fine and medium granular; friable; common fine roots; many fine pores; 5 percent rock fragments; moderately acid; gradual irregular boundary.

B/E—13 to 17 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; few thin patchy clay films in pores and on faces of peds (B part); brown (10YR 5/3 moist) and light gray (10YR 7/2 dry) coatings of silt loam and fine sandy loam, 1 millimeter thick, on faces of peds (E part); many fine pores; 5 percent rock fragments; moderately acid; clear smooth boundary.

Bt1—17 to 22 inches; very dark grayish brown (10YR 3/2) gravelly silt loam; few faint patchy clay films in pores and common ones on faces of peds; moderate medium subangular blocky structure; friable; common fine roots; common fine pores; 15 percent rock fragments; moderately acid; clear smooth boundary.

Bt2—22 to 36 inches; very dark grayish brown (10YR 3/2) silt loam; few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations in the lower part of the horizon; few moderately thick patchy clay films in pores and common ones on faces of peds; moderate medium and coarse subangular blocky structure; friable; few fine roots; many fine pores; 5 percent rock fragments; neutral; clear smooth boundary.

Cd—36 to 72 inches; very dark grayish brown (10YR 3/2) gravelly silt loam; massive; firm; 20 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 32 to 60 inches. The depth to carbonates ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 2 to 45 percent, by volume, in the solum and from 20 to 50 percent in the substratum. Reaction ranges from strongly acid through neutral in the surface layer and subsoil and from neutral through moderately alkaline in the substratum.

The Ap horizon has hue of 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is very fine sandy loam, loam, or silt loam.

Some pedons have an E horizon. The BE and E horizons have hue of 10YR, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is very fine sandy loam, loam, or silt loam. Structure is weak platy or subangular blocky.

Some pedons have an E/B horizon. If they occur, the B/E and E/B horizons are as much as 6 inches thick. They have properties like those of the E horizon on the exteriors of peds and like those of the Bt horizon in the interiors of peds.

The Bt horizons have hue of 10YR through 5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is loam, silt loam, or silty clay loam with 18 to 28 percent clay, by weighted average. Structure is medium or coarse subangular blocky and/or prismatic. Consistence is friable or firm. In some pedons the Bt2 horizon has few or common redoximorphic features.

The Cd horizon has hue of 10YR through 5Y, value of 3 through 5, and chroma of 1 through 3. The fine-earth fraction is loam or silt loam. The horizon is massive or has weak or moderate, medium or thick platelike divisions. Consistence is firm or very firm.

Lima Series

The Lima series consists of very deep, moderately well drained soils on glaciated uplands. These soils formed in loamy glacial till derived from shale and limestone. Slopes range from 0 to 15 percent.

Lima soils are adjacent to and form a drainage sequence with well drained Honeoye soils, somewhat poorly drained Appleton soils, and poorly drained Lyons soils. Somewhat poorly drained Kendaia soils are near Lima soils in depressions and on the flatter parts of the landscape. The nearby Conesus soils generally are deeper to carbonates than the Lima soils. In some areas Lima soils are near well drained or moderately well drained Cazenovia soils, which have more clay than the Lima soils.

Typical pedon of Lima gravelly silt loam, 3 to 8 percent slopes, in the town of Springfield, Otsego County, 600 feet south of the intersection of Hinds Road and Domion Road and 600 feet west of Hinds Road, in a pasture; lat. 42°51´05´´ N. and long. 74°50´43´´ W.

Ap—0 to 7 inches; dark brown (10YR 3/3) gravelly silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure parting to moderate fine granular; friable; common fine and medium roots; 15 percent rock fragments; neutral; abrupt smooth boundary.

E—7 to 12 inches; brown (10YR 5/3) loam, very pale brown (10YR 7/3) dry; weak thin platy structure; friable; common fine roots; 5 percent rock fragments; neutral; clear wavy boundary.

B/E—12 to 17 inches; dark brown (10YR 3/3) gravelly silt loam subsoil material with brown (10YR 5/3 moist) and very pale brown (10YR 7/3 dry) gravelly fine sandy loam more than 1 millimeter thick on faces of peds; weak fine subangular blocky structure; friable; few fine and medium roots; common fine and medium and few coarse tubular pores; common distinct very dark grayish brown (10YR 3/2) clay films in pores and on vertical faces of peds; 15 percent rock fragments; neutral; clear wavy boundary.

Bt—17 to 28 inches; dark brown (10YR 3/3) gravelly silt loam; few medium prominent olive yellow (2.5Y 6/8) redoximorphic concentrations; moderate fine subangular blocky structure; friable; few fine roots; many fine and few medium vesicular pores; many faint very dark grayish brown (10YR 3/2) clay films in pores and on vertical and horizontal faces of peds; 15 percent rock fragments; neutral; clear wavy boundary.

Cd1—28 to 47 inches; dark brown (10YR 4/3) and dark grayish brown (10YR 4/2) gravelly silt loam; massive; firm; common fine and few medium tubular pores; 25 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; slightly effervescent; slightly alkaline; gradual wavy boundary.

Cd2—47 to 72 inches; dark brown (10YR 4/3) and dark grayish brown (10YR 4/2) very channery silt loam; massive; firm; few fine vesicular pores; 45 percent rock fragments, including 8 percent fragments more than 3 inches in diameter; violently effervescent; moderately alkaline.

The thickness of the solum ranges from 20 to 30 inches. The depth to carbonates ranges from 15 to 32 inches. The depth to bedrock is generally more than 60 inches. The content of rock fragments ranges from 5 to 30 percent, by volume, in the solum and from 20 to 50 percent in the substratum. It includes 3 to 10 percent fragments more than 3 inches in diameter. Unless the soils have been limed, reaction ranges from moderately acid through slightly alkaline in the solum and is slightly alkaline or moderately alkaline in the substratum. The higher reaction is more common in the lower part of the B horizon than in other parts of the solum. The lower part of the B horizon is calcareous in some pedons.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction ranges from fine sandy loam through silt loam. Structure is weak or moderate medium or fine granular. Consistence is friable or very friable. Some pedons have a thin E or BE horizon.

The B/E horizon has properties like those of the Bt horizon in the interiors of peds. The E part has hue of 10YR, value of 4 through 7, and chroma of 2 or 3. High-chroma redoximorphic features occur in some pedons.

The Bt horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 3 or 4. It has few to many distinct or prominent high-chroma redoximorphic features. The fine-earth fraction is loam, silt loam, or clay loam with an average content of clay ranging from 18 to 28 percent. Structure is weak or moderate, fine through coarse, blocky or subangular blocky and/or very coarse prismatic. Consistence is friable or firm. Some pedons have a BC horizon.

The Cd horizons have hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. The horizons are massive or have weak or moderate medium or thick platelike divisions. Consistence is firm or very firm. Some pedons have a friable C horizon above the Cd horizons. Other pedons have 2C and 3C horizons.

Lyman Series

The Lyman series consists of shallow, somewhat excessively drained soils on bedrock-controlled till plains in the uplands. These soils formed in loamy glacial till derived mainly from granite or gneiss. The till is low in content of lime. Slopes range from 35 to 60 percent.

Lyman soils are commonly adjacent to moderately deep, well drained Tunbridge and very deep, well drained Becket soils, which are on the same landforms as the Lyman soils. Lyman soils are mapped in a complex with Tunbridge soils. Very deep, moderately well drained Skerry soils are on nearby landforms similar to those of the Lyman soils or are in nearby slightly concave areas.

Typical pedon of Lyman channery loam, in a wooded area of Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky, in the town of Forestport, Oneida County, 3 miles east of Woodgate on Bear Creek Road and 0.5 mile north of Bear Creek Road:

A—0 to 5 inches; very dark gray (5YR 3/1) channery loam with a thin layer of mostly undecomposed leaf and root material at the surface; moderate fine and medium granular structure; friable; many fine, medium, and coarse roots; 20 percent rock fragments; a few boulders on the surface; extremely acid; clear wavy boundary.

Bhs—5 to 15 inches; dark reddish brown (5YR 3/3) channery sandy loam; moderate fine and medium subangular blocky structure; friable; many fine and medium and few coarse roots; 20 percent rock fragments; very strongly acid; abrupt smooth boundary.

2R—15 inches; granite, schist, and gneiss bedrock.

The thickness of the solum ranges from 10 to 20 inches and corresponds to the depth to bedrock. The content of rock fragments less than 3 inches in diameter ranges from 5 to 25 percent, by volume, throughout the solum. The content of rock fragments 3 to 10 inches in diameter ranges from 0 to 10 percent, by volume, throughout the solum. The content of rock fragments more than 10 inches in diameter ranges from 0 to 15 percent, by volume, in the A horizon and from 0 to 3 percent in the B horizon. Unless the soils have been limed, reaction ranges from extremely acid through moderately acid throughout the solum.

The A horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. Some pedons have an Ap horizon, which has value and chroma of 2 through 4 and typically is 6 inches or more thick. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam.

Some pedons have an E horizon. This horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 1 or 2. The fine-earth fraction is loamy sand, loamy fine sand, sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam.

The Bhs horizon has hue of 2.5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. Some pedons have a Bs horizon, which has hue of 5YR through 10YR, value of 3 through 5, and chroma of 3 through 8. Some pedons have a Bh horizon, which has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 through 4. The fine-earth fraction of the Bhs, Bs, and Bh horizons is sandy loam, fine sandy loam, very fine sandy loam, or silt loam.

Some pedons have a BC horizon. This horizon has hue of 10YR through 5Y, value of 3 through 5, and chroma of 3 or 4. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam.

The 2R layer is generally dark gray, greenish gray, or nearly black mica schist bedrock, but in some pedons it is phyllite, granite, or gneiss.

Lyons Series

The Lyons series consists of very deep, poorly drained or very poorly drained soils in depressions and along drainageways on till plains in the uplands. These soils are dominantly poorly drained and formed in calcareous glacial till derived from limestone, shale, and sandstone. Slopes range from 0 to 3 percent.

Lyons soils are commonly adjacent to and form a drainage sequence with somewhat poorly drained Kendaia and Appleton soils on the slightly higher parts of the landscape. Well drained Honeoye and Lansing soils and moderately well drained Conesus and Lima soils are on adjacent hillsides and drumlins. In a few areas Lyons soils are near somewhat poorly drained Manheim soils in the slightly higher landform positions.

Typical pedon of Lyons silt loam, in the town of Paris, Oneida County, 0.5 mile south of the intersection of Daytonville Road and Route 12 and 1,000 feet west of Route 12:

A—0 to 9 inches; black (10YR 2/1) silt loam, gray (10YR 5/1) dry; moderate medium and fine granular structure; friable; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Bg1—9 to 15 inches; dark grayish brown (10YR 4/2) silt loam; common medium prominent yellowish brown (10YR 5/6 and 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; 10 percent rock fragments; slightly acid; clear smooth boundary.

Bg2—15 to 21 inches; gray (10YR 5/1) silt loam; common medium prominent strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) redoximorphic concentrations; moderate medium subangular blocky structure; firm; 10 percent rock fragments; neutral; clear smooth boundary.

BCg—21 to 30 inches; gray (10YR 5/1) gravelly silt loam; few coarse prominent brownish yellow (10YR 6/6) redoximorphic concentrations; weak medium subangular blocky structure; firm; 15 percent rock fragments; slightly effervescent; neutral; clear smooth boundary.

C—30 to 72 inches; dark gray (10YR 4/1) gravelly silt loam; few fine prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations; massive; firm; 20 percent rock fragments; slightly effervescent; neutral in the upper part of the horizon and slightly alkaline in the lower part.

The thickness of the solum ranges from 20 to 40 inches. The depth to carbonates ranges from 12 to 40 inches. The content of rock fragments ranges from 5 to 30 percent, by volume, between depths of 10 and 40 inches and from 10 to 60 percent below a depth of 40 inches.

The Ap or A horizon has hue of 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. The fine-earth fraction ranges from fine sandy loam through silty clay loam. Consistence is very friable or friable. Reaction ranges from moderately acid through neutral.

The Bg horizons have hue of 5YR through 5Y, value of 4 through 6, and chroma of 1 or 2. The fine-earth fraction ranges from fine sandy loam through silty clay loam, and the content of clay, by weighted average, is 18 to 28 percent in the particle-size control section. Structure is weak or moderate subangular blocky or prismatic. Consistence is friable or firm. Few to many high-chroma redoximorphic concentrations occur directly below the Ap horizon, and common or many redoximorphic concentrations occur at greater depths. Redoximorphic depletions also occur in some pedons. Reaction ranges from slightly acid through slightly alkaline.

The C or 2C horizon has hue of 5YR through 5Y, value of 4 through 6, and chroma of 1 or 2. In some pedons it has redoximorphic concentrations with higher chroma. The fine-earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from neutral through strongly alkaline.

Malone Series

The Malone series consists of very deep, somewhat poorly drained soils on broad till plains, side slopes, and hilltops on glacial uplands. These soils occur in the valley of the Black River and the upper end of the valley of the Mohawk River. They formed in loamy till derived mainly from calcareous shale and limestone. Slopes range from 0 to 15 percent.

Malone soils are adjacent to and form a drainage sequence with well drained Pyrities and moderately well drained Kalurah soils on the slightly higher landforms. Poorly drained Runeberg soils are near Malone soils in depressions. In some areas

Malone soils are near Camroden soils and moderately well drained Pinckney soils, both of which have a fragipan in the subsoil and are lower in reaction than the Malone soils.

Typical pedon of Malone loam, 0 to 3 percent slopes, map unit 1626A, Lewis County, New York, in the town of Lowville, about 3.5 miles north of Lowville, about 0.75 mile west of the intersection of Route 26 and Patten Road, and 235 feet north of Patten Road, in a hayfield; at an elevation of 1,105 feet; lat. 43°50´06.8´´ N. and long. 75°32´37.1´´ W.; West Lowville USGS topographic quadrangle; NAD83:

Ap—0 to 9 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular and weak medium subangular blocky structure; very friable; many very fine and fine roots; 5 percent mixed subrounded rock fragments; neutral (limed); abrupt smooth boundary.

Bw1—9 to 14 inches; 70 percent light olive brown (2.5Y 5/3) and 30 percent dark brown (10YR 3/3) loam; moderate fine and medium subangular blocky structure; friable; common very fine and few fine roots; 5 percent mixed subrounded rock fragments; neutral; clear wavy boundary.

Bw2—14 to 18 inches; olive brown (2.5Y 4/3) loam; 3 percent medium faint grayish brown (2.5Y 5/2) redoximorphic depletions and 5 percent medium prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable; common very fine roots; 10 percent mixed subrounded rock fragments; neutral; clear wavy boundary.

BCg—18 to 38 inches; dark grayish brown (2.5Y 4/2) loam; 8 percent fine distinct and prominent dark yellowish brown (10YR 4/4 and 4/6) redoximorphic concentrations and 2 percent fine faint grayish brown (2.5Y 5/2) redoximorphic depletions along roots and in pores; weak fine and medium subangular blocky structure; friable; 11 percent subrounded and rounded rock fragments, including 1 percent cobbles; strongly effervescent; slightly alkaline; clear wavy boundary.

Cd—38 to 74 inches; light olive brown (2.5Y 5/3) gravelly loam; a sand lens in part of the pit below a depth of 72 inches; 1 percent fine distinct light olive brown (2.5Y 5/6) redoximorphic concentrations; massive with some areas of platelike divisions; very firm and brittle; 23 percent subrounded and rounded rock fragments, including 3 percent cobbles (mainly dark shale and limestone); violently effervescent; moderately alkaline.

The thickness of the solum ranges from 18 to 38 inches. The depth to carbonates ranges from 18 to 50 inches. The depth to bedrock is more than 60 inches. The content of limestone or dolomite rock fragments, gravel, cobbles, and channers ranges from 5 to 35 percent, by volume, in the solum and from 5 to 50 percent in the substratum.

The Ap horizon has hue of 10YR, value of 2 through 5, and chroma of 1 through 3. The fine-earth fraction is silt loam, loam, fine sandy loam, or sandy loam. Reaction is moderately acid or slightly acid unless the soils have been limed.

The Bw horizons have hue of 5YR through 2.5Y and value and chroma of 3 through 6. The fine-earth fraction is loam, fine sandy loam, or sandy loam. Reaction is slightly acid or neutral.

The BCg horizon has hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 1 or 2. The fine-earth fraction generally is loam, fine sandy loam, or sandy loam but in some pedons is silty clay loam or silt loam in thin subhorizons. Reaction ranges from slightly acid through slightly alkaline.

The Cd horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 through 4. The fine-earth fraction is sandy loam, fine sandy loam, or loam. Reaction ranges from neutral through moderately alkaline.

Manheim Series

The Manheim series consists of very deep, somewhat poorly drained soils in depressions and broad, slightly concave areas on till plains on uplands or in valleys. These soils are mainly in the eastern part of the county, north of the Mohawk River, in the towns of Deerfield and Marcy. In some areas the soils occur at an elevation of more than 1,000 feet. They formed in till derived from limestone and black or dark gray, calcareous shale. Slopes range from 0 to 15 percent.

Manheim soils are commonly adjacent to poorly drained or very poorly drained Lyons soils. Moderately well drained Conesus and well drained Lansing soils are on the nearby higher parts of the landscape. Moderately deep Gretor and Ischua soils are in adjacent bedrock-controlled areas. In a few areas Kendaia soils are near Manheim soils. They have a lighter colored surface layer than the Manheim soils.

Typical pedon of Manheim silt loam, 3 to 8 percent slopes, in the town of Richfield, Otsego County, 1,000 feet east of the intersection of Dugan Road and Cross Road and 325 feet south of Dugan Road, in a pasture; lat. 42°52´32´´ N. and long. 75°02´07´´ W.

Ap1—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate fine granular; friable; many fine roots; 5 percent rock fragments; neutral; clear smooth boundary.

Ap2—4 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, dark brown (10YR 3/3) crushed and rubbed, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; very friable; many fine roots; 10 percent rock fragments; neutral; clear smooth boundary.

B/E—9 to 19 inches; dark brown (10YR 4/3) channery silt loam with brown (10YR 5/3) faces of peds; few fine distinct yellowish brown (10YR 5/6) redoximorphic concentrations and few fine faint grayish brown (10YR 5/2) redoximorphic depletions; moderate fine and medium subangular blocky structure; friable; common fine roots; few fine tubular pores containing continuous faint clay films; very dark grayish brown (10YR 3/2) surface material in the macropores; 15 percent rock fragments; neutral; gradual wavy boundary.

Bt—19 to 29 inches; channery silt loam with dark brown (10YR 4/3) ped interiors and dark grayish brown (10YR 4/2) faces of peds; thin lenses of very fine sandy loam; common fine and medium distinct dark yellowish brown (10YR 4/6) redoximorphic concentrations and few fine faint grayish brown (10YR 5/2) redoximorphic depletions; moderate medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine tubular pores containing continuous faint clay films; continuous distinct clay films on horizontal and vertical faces of peds; 15 percent rock fragments; neutral; clear wavy boundary.

Cg—29 to 41 inches; dark grayish brown (10YR 4/2) channery silt loam with thin lenses of silty clay loam; common fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; weak thin platy structure; friable, slightly sticky, slightly plastic; few faint clay films on vertical faces of peds; 20 percent rock fragments; strongly effervescent; slightly alkaline; gradual wavy boundary.

2Cdg—41 to 72 inches; dark grayish brown (10YR 4/2) gravelly silty clay loam; common fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; massive; firm; 30 percent rock fragments; violently effervescent; moderately alkaline.

The thickness of the solum ranges from 24 to 45 inches. The depth to carbonates ranges from 24 to 55 inches. The content of rock fragments, commonly firm shale, ranges from 5 to 35 percent, by volume, in the solum and from 5 to 55 percent in the substratum. Moist matrix color values are 4 or less throughout the profile, except for the E part of the B/E horizon where this horizon is present. The depth to bedrock is more than 60 inches.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 or 3 (5 or less dry), and chroma of 1 or 2. The fine-earth fraction ranges from loam through silty clay loam. Consistence is friable or very friable. In unlimed areas reaction is moderately acid through neutral.

Some pedons have a BA horizon. If the pedon does not have a BA horizon, chroma is more than 2 in the upper part of the Bt horizon.

The Bt horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. Faces of peds are dominated by chroma of 2, but the upper part of the horizon has chroma of 3 or more in 40 percent or more of the matrix when the soil is broken or cut through the peds. The horizon has common or many low- and high-chroma mottles. The fine-earth fraction ranges from loam through silty clay loam. In unlimed areas reaction ranges from moderately acid through neutral.

The C and 2Cd horizons have hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 through 3. The fine-earth fraction ranges from loam to silty clay loam. These horizons are massive or have platelike divisions. Consistence is firm or very firm. Some pedons are friable in the upper 15 inches of the C horizon. Reaction ranges from neutral through moderately alkaline.

Manlius Series

The Manlius series consists of moderately deep, well drained to excessively drained soils on hilltops and side slopes on bedrock-controlled landforms. These soils are dominantly well drained and formed in glacial till derived mainly from shale and siltstone. Slopes range from 3 to 45 percent.

Manlius soils are commonly adjacent to somewhat poorly drained Greene soils. They are on the same landforms as Greene soils. Shallow, well drained Arnot soils, shallow, poorly drained Tuller soils, and very deep, moderately well drained Mardin soils are near Manlius soils. Mardin soils have a firm subsoil layer. Mongaup soils are similar to Manlius soils in drainage and depth but occur in colder areas of the county.

Typical pedon of Manlius channery silt loam, 25 to 45 percent slopes, in the town of Paris, Oneida County, 2,300 feet south and 1,700 feet west of the intersection of Main Street in Cassville and Summit Road:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) channery silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; many fine and very fine roots; 25 percent rock fragments; strongly acid; abrupt smooth boundary.

A/B—7 to 14 inches; very dark grayish brown (10YR 3/2) (A part) and brown (10YR 4/3) (B part) very channery silt loam; moderate medium subangular blocky structure; friable; many fine and very fine and few medium roots; 40 percent rock fragments; strongly acid; gradual wavy boundary.

Bw—14 to 24 inches; dark yellowish brown (10YR 4/4) very channery silt loam; moderate fine and medium subangular blocky structure; friable; few fine and medium roots; 50 percent rock fragments; few yellowish brown (10YR 5/6) stains; moderately acid; clear smooth boundary.

C—24 to 28 inches; dark yellowish brown (10YR 4/4) extremely channery silt loam; few fine faint yellowish brown (10YR 5/6) redoximorphic concentrations; massive; firm; few very fine roots; 60 percent rock fragments; strongly acid; gradual smooth boundary.

2R—28 inches; very dark gray (10YR 3/1) shale and fine grained siltstone; horizontally bedded.

The thickness of the solum ranges from 15 to 35 inches. The depth to bedrock ranges from 20 to 40 inches. The content of rock fragments, dominantly shale with some siltstone and sandstone channers, ranges from 15 to 40 percent, by volume, in the surface layer, from 25 to 60 percent in the subsoil, and from 30 to 70 percent in the substratum, the lower limits occurring as thin subhorizons. Reaction ranges from extremely acid through moderately acid in the solum and from very strongly acid through slightly acid in the substratum.

The Ap or A horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is loam or silt loam. Structure is medium or fine granular or subangular blocky parting to granular. Consistence is friable or very friable.

The A/B horizon has hue of 7.5YR through 2.5Y and value and chroma of 3 to 6. The fine-earth fraction is loam or silt loam. Structure is medium or fine granular or subangular blocky parting to granular. Consistence is friable or very friable.

The Bw horizon has generally hue of 10YR through 5Y, value of 4 through 6, and chroma of 3 through 6. Some thin subhorizons have hue of 7.5YR. Some pedons have few or common faint redoximorphic features below a depth of 20 inches. The fine-earth fraction is loam or silt loam. Structure is granular or subangular blocky. Consistence is very friable through firm. Some pedons have an AB or BA horizon.

The C or 2C horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam or silt loam. Consistence is loose through firm.

The 2R layer is dominantly shale or shale interbedded with siltstone bedrock. The bedding planes are mostly horizontal.

Marcy Series

The Marcy series consists of very deep, poorly drained soils in slightly concave areas on broad till plains in the uplands. These soils formed in glacial till. A dense fragipan is at a depth of 12 to 18 inches. Slopes range from 0 to 3 percent.

Marcy soils are commonly adjacent to moderately well drained Pinckney and somewhat poorly drained Camroden soils on the slightly higher landforms. Very poorly drained Tughill soils are near Marcy soils in some areas. They are on the same landforms as the Marcy soils. Dannemora soils also are near Marcy soils. They formed in glacial till derived from mainly sandstone. Runeberg soils are generally adjacent to and east of Marcy soils. They are less acid than the Marcy soils.

Typical pedon of Marcy silt loam, in the town of Ava, Oneida County, 1,000 feet south of East Ava Road and 2,000 feet east of Route 26:

Ap—0 to 6 inches; dark brown (7.5YR 3/2) silt loam; moderate medium granular structure; friable; many fine and very fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

Eg1—6 to 12 inches; dark grayish brown (10YR 4/2) silt loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; many very fine roots; 10 percent rock fragments; strongly acid; clear smooth boundary.

Eg2—12 to 14 inches; dark gray (10YR 4/1) loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; firm; common fine roots; 10 percent rock fragments; strongly acid; clear smooth boundary.

Bxg—14 to 40 inches; dark grayish brown (2.5Y 4/2) gravelly loam; common medium distinct light brownish gray (10YR 6/2) redoximorphic depletions and few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; moderate very coarse prismatic structure; gray (10YR 6/1) prism interiors and light yellowish brown (10YR 6/4) prism edges (rinds); very firm and brittle; 15 percent rock fragments; strongly acid; clear smooth boundary.

Cd—40 to 72 inches; dark grayish brown (2.5Y 4/2) gravelly loam; massive; firm; 20 percent rock fragments; moderately acid.

The thickness of the solum ranges from 36 to 50 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 12 to 18 inches. The depth to free carbonates ranges from the base of the solum to a depth of 7 feet. The content of rock fragments ranges from 5 to 35 percent, by volume, throughout the profile.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction ranges from loam through silty clay loam. Structure is weak or moderate granular. Consistence is friable or very friable. In unlimed areas reaction ranges from strongly acid through neutral.

The E horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 1 or 2. It has common or many redoximorphic concentrations with higher chroma. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is granular or blocky. Consistence is friable or firm. Reaction ranges from strongly acid through neutral.

The Bx horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 1 or 2. It has few or common redoximorphic concentrations with higher chroma. The fine-earth fraction is loam or silt loam. Structure is moderate or strong very coarse prismatic and may be massive within prisms. Consistence is firm or very firm. Reaction ranges from strongly acid through neutral. Clay films, as much as 1 percent of the volume, may occur in pores but not on faces of peds.

The Cd horizon is similar to the Bx horizon in color and texture, but it is massive or platy and is less brittle. Reaction ranges from moderately acid through slightly alkaline in the upper part of the horizon. Typically, slight effervescence is within a depth of 90 inches.

Mardin Series

The Mardin series consists of very deep, moderately well drained soils on glaciated uplands. These soils formed in firm till. A dense fragipan is at a depth of 14 to 26 inches. Slopes range from 3 to 25 percent.

Mardin soils are commonly adjacent to and form a drainage sequence with somewhat poorly drained Venango soils and poorly drained Chippewa soils. Well drained Chadakoin soils are near Mardin soils. They do not have a fragipan. They are on landscapes similar to those of the Mardin soils. Moderately deep, well drained Manlius soils, shallow, well drained Arnot soils, and shallow, poorly drained Tuller soils are on nearby bedrock-controlled landforms.

Typical pedon of Mardin loam, 3 to 8 percent slopes, in the town of Sangerfield, Oneida County, 50 yards north of the Madison County line and 50 yards east of Gorton Lake Road:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; many fine, common medium, and few coarse roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.

Bw1—4 to 17 inches; yellowish brown (10YR 5/6) channery loam; few fine distinct light brownish gray (10YR 6/2) redoximorphic depletions in the lowest part of the horizon; weak fine subangular blocky structure parting to moderate medium granular; very friable; few fine prominent dark brown (7.5YR 3/2) organic stains; many fine and very fine and few medium and coarse roots; 15 percent rock fragments; very strongly acid; clear wavy boundary.

Bw2—17 to 21 inches; yellowish brown (10YR 5/4) loam; few fine faint yellowish brown (10YR 5/6) redoximorphic concentrations; weak fine subangular blocky structure; friable; common fine and few medium roots; 10 percent rock fragments; strongly acid; diffuse wavy boundary.

E—21 to 24 inches; grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/4) channery loam; common fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; moderate thin and medium platy structure; friable in the upper part of the horizon and firm in the lower part; common fine tubular and vesicular pores; common fine and few medium roots; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bx—24 to 59 inches; dark grayish brown (2.5Y 4/2) channery loam; few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; strong very coarse prismatic structure with moderate medium subangular blocky structure within prisms; separating the prisms, streaks that are $^{1}/_{2}$ inch to $1^{1}/_{2}$ inches wide and 6 to 18 inches apart, with light gray (5Y 7/1) interiors and yellowish brown (10YR 5/6 and 5/8) edges; silt coatings on prism exteriors; very firm and very brittle; common fine vesicular and few fine tubular pores; clay films lining 50 percent of the tubular pores; few fine roots along faces of prisms; 25 percent rock fragments, including 10 percent fragments more than 3 inches in diameter; strongly acid; gradual wavy boundary.

BC—59 to 65 inches; grayish brown (2.5Y 5/2) very channery silt loam; common fine distinct light olive brown (2.5Y 5/4) redoximorphic concentrations; weak very coarse prismatic structure, massive within prisms; firm and weakly brittle; 40 percent rock fragments, including 15 percent fragments more than 3 inches in diameter; neutral.

The thickness of the solum ranges from 38 to 72 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 14 to 26 inches. Above the fragipan, the content of silt plus sand is 60 percent or more in the fine-earth fraction. The content of rock fragments ranges from 5 to 35 percent, by volume, in the horizons above the fragipan and from 15 to 60 percent in and below the fragipan. Some pedons have no rock fragments below a depth of 40 inches.

The A horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction is silt loam or loam. Structure is weak or moderate granular. Consistence is very friable or friable. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 3 through 8. The fine-earth fraction is silt loam or loam. Structure is very fine through medium subangular blocky or granular. Consistence is very friable through firm. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

The E horizon has hue of 10YR or 2.5Y, value of 5 through 7, and chroma of 2 or 3. The fine-earth fraction is loam or silt loam. Structure is subangular blocky or platy. Consistence is friable or firm. Reaction ranges from extremely acid through moderately acid. The E or Bw horizons have redoximorphic features in some part within a depth of 20 inches, but the features are not distinct or prominent within a depth of 12 inches.

The Bx horizon has hue of 7.5YR through 5Y, value of 3 through 5, and chroma of 2 through 4. It has faint through prominent redoximorphic features. The fine-earth fraction is loam or silt loam. Structure is weak through strong very coarse prismatic. Consistence is firm or very firm. Reaction ranges from very strongly acid through slightly acid.

Some pedons have a Cd horizon. This horizon has hue of 7.5YR through 5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is loam or silt loam. The horizon is massive or has platelike divisions. Consistence is firm or very firm. Reaction ranges from strongly acid through neutral in the upper part of the horizon and in some pedons ranges to slightly alkaline below a depth of 60 inches.

Minoa Series

The Minoa series consists of very deep, somewhat poorly drained soils on glacial lake plains in the west-central and central parts of the county. These soils formed in water-sorted glaciolacustrine and deltaic sediments dominated by particles of very fine sand. Slopes range from 0 to 6 percent.

Minoa soils are commonly adjacent to and form a drainage sequence with poorly drained Lamson soils. In some areas they are near Niagara and Rhinebeck soils, which have more clay in the subsoil than the Minoa soils. Well drained Arkport soils are on nearby knolls.

Typical pedon of Minoa fine sandy loam, 0 to 6 percent slopes, in the town of Vienna, Oneida County, one-third of a mile north of the intersection of Kilts Road and Higginsville Road and 75 feet southwest of Kilts Road as it makes a right-angle turn to the south:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; neutral; clear smooth boundary.

Bw1—9 to 13 inches; brown (10YR 4/3) fine sandy loam; many medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations; weak medium subangular blocky structure; friable; moderately acid; clear smooth boundary.

Bw2—13 to 26 inches; brown (10YR 4/3) fine sandy loam; common medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations and common medium faint grayish brown (10YR 5/2) redoximorphic depletions; weak medium subangular blocky structure; friable; moderately acid; gradual smooth boundary.

BC—26 to 36 inches; brown (7.5YR 4/4) fine sandy loam; many coarse distinct strong brown (7.5YR 5/6) redoximorphic concentrations; massive; friable; moderately acid; abrupt wavy boundary.

C1—36 to 51 inches; grayish brown (10YR 5/2) loamy fine sand; massive; friable; slightly acid; gradual wavy boundary.

C2—51 to 72 inches; grayish brown (10YR 5/2) fine sand; massive; friable; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 40 inches. The depth to carbonates ranges from 40 to 72 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mostly fine gravel, ranges from 0 to 5 percent throughout the profile.

The Ap horizon has hue of 5YR through 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam, loamy very fine sand, very fine sandy loam, loam, or fine sandy loam. Structure is fine or medium granular. Consistence is very friable or friable. Reaction ranges from strongly acid through neutral, unless the soils have been limed.

The Bw horizons have hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 4. Faint or distinct redoximorphic depletions with chroma of 2 can occur where the matrix chroma is 3 or 4. The fine-earth fraction ranges from silt loam through loamy very fine sand. Structure is granular or subangular blocky. Consistence is very friable through firm. Reaction ranges from moderately acid through neutral.

The BC horizon has hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 4. It has redoximorphic features. The fine-earth fraction generally ranges from silt loam through loamy very fine sand, but the horizon commonly has a few lamellae of fine sandy loam or very fine sandy loam. Structure is very weak or weak granular, subangular blocky, or platy, or the horizon is massive. Consistence is loose through firm. Reaction ranges from moderately acid through neutral.

The C horizons have hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 1 or 2. Above a depth of 40 inches, the fine-earth fraction generally ranges from silt loam through loamy fine sand, but many pedons have thin lamellae of silty clay to fine sand. Below a depth of 40 inches, the fine-earth fraction ranges from fine sand through silty clay in some pedons. Reaction ranges from moderately acid through moderately alkaline.

Mongaup Series

The Mongaup series consists of moderately deep, well drained soils on side slopes and hilltops on bedrock-controlled landforms in the northern part of the county. These soils formed in glacial till derived from siltstone, sandstone, and shale. Slopes range from 3 to 45 percent.

Mongaup soils are commonly near very deep, moderately well drained Pinckney soils and very deep, somewhat poorly drained Camroden soils. In a few areas they are near very deep Bice soils.

Typical pedon of Mongaup silt loam, 25 to 45 percent slopes, in the town of Boonville, Oneida County, 75 feet west of Route 46 and 0.75 mile north of the entrance to Pixley Falls State Park:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and coarse roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—6 to 13 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium subangular blocky structure; friable; common fine and coarse roots; 10 percent rock fragments; strongly acid; clear smooth boundary.

Bw2—13 to 20 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few fine and coarse roots; 10 percent rock fragments; strongly acid; clear smooth boundary.

C—20 to 26 inches; yellowish brown (10YR 5/4) channery silt loam; massive; friable; few fine and coarse roots; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

2R—26 inches; very dark gray (10YR 3/1), fine grained siltstone; horizontally bedded.

The thickness of the solum (or the depth to bedrock) ranges from 20 to 40 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, throughout the profile. Reaction ranges from extremely acid through strongly acid in the surface layer and the upper part of the subsoil and from extremely acid through moderately acid in the lower part of the subsoil and in the substratum.

The Ap or A horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 through 4 and chroma of 0 through 3. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate granular. Consistence is friable or very friable. Some pedons have O or E horizons.

The Bw horizons have hue of 2.5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 6. The fine-earth fraction ranges from sandy loam through silt loam. Structure is weak or moderate subangular blocky. Some pedons have a BC horizon.

The C horizon has hue of 2.5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 6. The fine-earth fraction ranges from sandy loam through silt loam. The horizon is massive or has platelike divisions.

The 2R layer commonly is hard, massive, horizontally bedded siltstone, sandstone, or shale.

Napoleon Series

The Napoleon series consists of very deep, very poorly drained soils in bogs, swamps, and other depressional areas. These soils occur mainly on the Oneida Lake

Plain and to a lesser extent on some outwash plains or in areas having sandy lacustrine sediments. They formed in organic deposits more than 51 inches thick. Slopes range from 0 to 2 percent.

Napoleon soils are commonly adjacent to Adrian and Palms soils. Adrian and Palms soils have less than 51 inches of organic material, and their surface tier is more decomposed than that of the Napoleon soils. Napoleon soils are near excessively drained Windsor, moderately well drained Covert, somewhat poorly drained Wareham, and poorly drained Jebavy soils, all of which are all mineral soils that formed in sandy deposits and are in the higher landscape positions.

Typical pedon of Napoleon peat, in the city of Rome, Oneida County, 300 feet northwest of Tannery Road and 0.5 mile north of Oswego Road:

Oi—0 to 10 inches; pale brown (10YR 6/3) herbaceous and woody fibric material (peat); approximately 100 percent fibers unrubbed, 95 percent fibers rubbed; massive; friable; many very fine, fine, and medium roots; extremely acid; clear smooth boundary.

Oe1—10 to 20 inches; black (7.5YR 2.5/1) (broken face) hemic material (mucky peat); approximately 30 percent fibers unrubbed, 18 percent fibers rubbed; massive; friable; extremely acid; clear smooth boundary.

Oe2—20 to 40 inches; black (5YR 2.5/1) (broken face) hemic material (mucky peat); approximately 50 percent fibers unrubbed, 25 percent fibers rubbed; massive; friable; extremely acid; clear smooth boundary.

Oe3—40 to 60 inches; dark reddish brown (5YR 3/2) (broken face) hemic material (mucky peat); approximately 50 percent fibers unrubbed, 25 percent fibers rubbed; massive; friable; extremely acid; abrupt smooth boundary.

2C—60 to 72 inches; pale brown (10YR 6/3) loamy fine sand; firm; massive; strongly acid.

The organic material more than 51 inches thick. It is primarily herbaceous in origin. Some pedons have as much as 10 percent woody fragments that cannot be crushed between the fingers. Layers within the control section have pH of less than 4.5 in calcium chloride.

Some pedons have sphagnum moss as much as 6 inches thick on the surface. The surface tier ranges from muck (sapric material) to peat (fibric material). It has hue of 5YR to 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 to 3. Some layers of peat have rubbed value of as much as 6.

The subsurface and bottom tiers have hue of 10R to 10YR, value of 2 to 5, and chroma of 1 to 4. These colors darken on exposure to air and after rubbing. Ponded phases are recognized.

The 2C horizon, where present at a depth of 60 inches or more, has hue of 7.5YR to 5Y or is neutral in hue. It has value of 4 to 6 and chroma of 0 to 3. The texture ranges from fine sand through silty clay loam. The horizon is massive. Consistence is friable or firm. Reaction ranges from strongly acid through moderately alkaline.

Correlation note: The annual precipitation in areas of these soils in Oneida County is slightly above the allowed range for the Napoleon series. This difference generally does not significantly affect the use and management of the soils.

Naumburg Series

The Naumburg series consists of very deep, somewhat poorly drained or poorly drained soils on low-lying sand plains and terraces in the Adirondack region, in the northeastern part of the county. These soils are dominantly somewhat poorly drained and formed in sandy deltaic or glaciofluvial deposits. Slopes range from 0 to 3 percent.

Naumburg soils are commonly adjacent to and form a drainage sequence with somewhat excessively drained Adams and moderately well drained Croghan soils in the higher landform positions. Somewhat poorly drained Adirondack soils are in nearby depressions on glaciated uplands. Naumburg soils are adjacent to Roundabout soils on loamy lake plains.

Typical pedon of Naumburg loamy sand, in the town of Forestport, Oneida County, 100 feet south of Horton Road and 1 mile east of the Adirondack Railway:

Oa—0 to 4 inches; black (10YR 2/1), highly decomposed plant material; 25 percent fibers unrubbed, 10 percent fibers rubbed; a thin layer of slightly decomposed organic material in the upper part of the horizon (from decaying forest litter); weak fine and medium granular structure; very friable; extremely acid; abrupt smooth boundary.

E—4 to 12 inches; grayish brown (10YR 5/2) loamy sand; single grain; friable; very strongly acid; abrupt smooth boundary.

Bhs—12 to 15 inches; dark reddish brown (5YR 3/3) sand; common medium faint dusky red (2.5YR 3/2) redoximorphic depletions; single grain; friable with 20 percent extremely firm parts (discontinuous ortstein); very strongly acid; clear smooth boundary.

Bs—15 to 20 inches; strong brown (7.5YR 5/6) sand; many coarse prominent dark reddish brown (2.5YR 3/4) redoximorphic concentrations; single grain; very friable with 10 percent extremely firm parts (discontinuous ortstein); strongly acid; clear smooth boundary.

BC—20 to 25 inches; dark yellowish brown (10YR 3/4) sand; lenses of firm, black (10YR 2/1) and red (2.5YR 4/8) material 3 to 10 millimeters thick; single grain; very friable; strongly acid; clear smooth boundary.

Cg—25 to 72 inches; dark grayish brown (10YR 4/2) loamy fine sand; 40 percent of the matrix made up of black (10YR 2/1) lenses 3 to 10 millimeters thick; single grain; very friable; strongly acid.

The thickness of the solum ranges from 18 to 42 inches. The depth to bedrock is more than 60 inches. The soils generally have no rock fragments, but the content of these fragments is as much as 5 percent, by volume, in some pedons. The combined thickness of the spodic horizons (Bh, Bhs, and/or Bs) ranges from 7 to 32 inches.

The Oa horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 4. The organic material generally is highly decomposed plant material derived dominantly from woody vegetation and from a smaller amount of herbaceous vegetation. The rubbed fiber content is less than 15 percent of the volume. An Oe horizon, as much as 2 inches thick, overlies the Oa horizon in some pedons.

Some pedons have an A horizon. This horizon has hue of 5YR through 10YR, value of 2 through 5, and chroma of 1 through 4. The fine-earth fraction is fine sandy loam, sandy loam, loamy fine sand, or loamy sand. Reaction ranges from extremely acid through strongly acid, unless the soils have been limed.

The E horizon has hue of 5YR through 10YR, value of 5 through 7, and chroma of 1 through 3. The texture is similar to the that of A horizon. Consistence is friable or loose. Reaction ranges from extremely acid through strongly acid.

Some pedons have a Bh horizon. This horizon has hue of 2.5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. The fine-earth fraction ranges from loamy fine sand through sand. Structure generally is weak granular or subangular blocky, but in some pedons the horizon is single grain. Consistence generally is very friable through loose, but in some pedons as much as 35 percent of the horizon is firm or extremely firm. Reaction ranges from extremely acid through strongly acid.

The Bhs horizon has hue of 2.5YR through 10YR and value and chroma of 2 or 3. The fine-earth fraction ranges from loamy fine sand through sand. Structure is weak granular or subangular blocky. Reaction ranges from extremely acid through strongly acid.

The Bs horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 3 through 6. The fine-earth fraction ranges from loamy fine sand through sand. Consistence generally is very friable or loose, but in some pedons as much as 20 percent of the horizon is firm or very firm. Reaction ranges from extremely acid through strongly acid.

The BC horizon has hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 2 through 6. The fine-earth fraction ranges from loamy fine sand through sand. Consistence generally is very friable or loose, but in some pedons as much as 20 percent of the horizon is firm or very firm. Reaction ranges from extremely acid through strongly acid.

The Cg or C horizon has hue of 7.5YR through 5Y, value of 3 through 6, and chroma of 1 through 4. The fine-earth fraction ranges from loamy fine sand through coarse sand. Reaction ranges from very strongly acid through slightly acid.

Nellis Series

The Nellis series consists of very deep, well drained soils on till plains, moraines, and drumlins. In some areas these soils occur on a series of terracelike landforms supported by limestone bedrock that is nearly level bedded. The soils formed in calcareous till derived mainly from limestone and from lesser amounts of sandstone and coarse grained siltstone. Slopes range from 3 to 25 percent.

Nellis soils are adjacent to and form a drainage sequence with moderately well drained Amenia soils and somewhat poorly drained Kendaia soils. Poorly drained or very poorly drained Lyons soils are near Nellis soils in slightly concave areas or depressions. Nellis soils are near Pittsfield soils, which do not have carbonates above a depth of 40 inches. Shallow, well drained Farmington soils are on nearby limestone-controlled uplands.

Typical pedon of Nellis loam, 3 to 8 percent slopes, in the town of Marshall, Oneida County, 0.75 mile south of the village of Paris and 50 feet east of Route 12:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; very friable; many fine roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—7 to 12 inches; brown (10YR 5/3) and yellowish brown (10YR 5/4) loam; weak fine and medium subangular blocky structure; very friable; 10 percent rock fragments; neutral; gradual wavy boundary.

Bw2—12 to 20 inches; brown (10YR 5/3) and dark grayish brown (10YR 4/2) silt loam; weak medium and fine subangular blocky structure; very friable; 10 percent rock fragments; neutral; gradual wavy boundary.

Bw3—20 to 25 inches; brown (10YR 4/3) and dark grayish brown (10YR 4/2) loam; weak fine and medium subangular blocky structure; very friable; 10 percent rock fragments; neutral; clear wavy boundary.

C—25 to 72 inches; grayish brown (10YR 5/2) gravelly fine sandy loam; weak thick platy structure; firm; 15 percent rock fragments; slightly effervescent; moderately alkaline.

The thickness of the solum ranges from 15 to 30 inches. The depth to carbonates ranges from 15 to 38 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 3 to 35 percent, by volume, in the A horizon, from 5 to 35 percent in the B horizon, and from 5 to 50 percent in the C horizon. Reaction ranges from moderately acid through neutral in the upper part of the solum, from moderately acid through slightly alkaline in the lower part of the solum, and from neutral through moderately alkaline in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction ranges from fine sandy loam through silt loam. Structure is weak or moderate granular. Consistence is very friable or friable. Pedons in undisturbed areas have an A horizon, which is 2 to 6 inches thick.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. In some pedons faint redoximorphic features occur at the contact between the B and C horizons. The fine-earth fraction ranges from fine sandy loam through silt loam. Structure is weak or moderate, fine or medium subangular blocky. Consistence is very friable or friable. Some pedons have a BC horizon and/or a CB horizon.

The C horizon has hue of 10YR through 5Y, value of 3 through 7, and chroma of 2 through 6. The fine-earth fraction is sandy loam, fine sandy loam, or loam. Consistence is friable or firm. The horizon is calcareous.

Niagara Series

The Niagara series consists of very deep, somewhat poorly drained, medium textured or moderately fine textured soils on glacial lake plains. These soils formed in glaciolacustrine deposits derived from lake sediments that are medium in content of lime. Slopes range from 0 to 3 percent.

Niagara soils are commonly adjacent to and form a drainage sequence with moderately well drained Collamer soils in the slightly higher landform positions. In the flatter and slightly more concave or depressional areas, poorly drained or very poorly drained Canandaigua soils are adjacent to Niagara soils. Rhinebeck soils are near Niagara soils in some areas. They have a higher content of clay than the Niagara soils. Niagara soils are near Minoa soils in the southern and west-central parts of the county. Minoa soils are coarser textured than the Niagara soils. In some areas that are subject to rare flooding, Wakeville soils are near Niagara soils.

Typical pedon of Niagara silt loam, in the town of Verona, Oneida County, 80 feet east of Germany Road and 60 feet north of a hedgerow directly across from an Air Force substation:

Ap1—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; many fine and few medium roots; neutral; clear smooth boundary.

Ap2—6 to 11 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium and coarse subangular blocky structure; very friable; common fine roots; neutral; abrupt smooth boundary.

Eg—11 to 13 inches; brown (7.5YR 5/2) fine sandy loam; few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations and few fine distinct reddish brown (5YR 5/3) redoximorphic depletions in root channels and common fine distinct brown (10YR 5/3) redoximorphic depletions on faces of peds; weak fine subangular blocky structure; friable; few fine roots; common fine and few medium tubular pores; neutral; clear wavy boundary.

Bt—13 to 21 inches; reddish brown (5YR 5/3) silt loam; few fine faint reddish gray (5YR 5/2) redoximorphic depletions and common fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations; brown (7.5YR 5/4) faces of peds; moderate medium and coarse angular blocky structure; friable; few fine roots; common fine vesicular pores; common distinct clay films in pores and common patchy distinct clay films on faces of peds; slightly alkaline; clear wavy boundary.

C1—21 to 26 inches; reddish brown (5YR 5/3) very fine sandy loam; common medium prominent strong brown (7.5YR 5/6) and common medium faint brown (7.5YR 4/4) redoximorphic concentrations on faces of peds and few fine distinct grayish brown (10YR 5/2) redoximorphic depletions; weak thin platelike divisions; friable; very few fine roots; friable; few fine tubular pores; few vertical macropores filled with material from the Eg and Bt horizons; slightly effervescent; slightly alkaline; gradual wavy boundary.

C2—26 to 32 inches; brown (7.5YR 4/2) very fine sandy loam; few fine distinct grayish brown (2.5Y 5/2) redoximorphic depletions on faces of peds and many medium prominent strong brown (7.5YR 5/6) redoximorphic concentrations in ped interiors; moderate thin platelike divisions (varved); friable; few fine tubular pores; few vertical macropores filled with material from the Eg and Bt horizons; strongly effervescent; moderately alkaline; gradual wavy boundary.

C3—32 to 72 inches; reddish brown (5YR 5/3) silt loam; common medium faint brown (7.5YR 5/2) redoximorphic depletions; few fine and medium prominent olive gray (5Y 5/2) redoximorphic depletions on faces of peds; moderate platelike divisions (varved); thin stratified plates of very fine sandy loam and silt loam below a depth of 60 inches; strongly effervescent; moderately alkaline.

The thickness of the solum ranges from 20 to 40 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 20 to 50 inches. The soils generally have no rock fragments, but in some pedons the content of these fragments is as much as 5 percent, by volume.

The Ap horizons have hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is fine sandy loam, very fine sandy loam, loam, or silt loam. Consistence is friable or very friable. Reaction ranges from strongly acid through neutral.

The Eg horizon has hue of 7.5YR through 2.5Y, value of 5 or 6, and chroma of 2 through 4. The fine-earth fraction ranges from fine sandy loam through silt loam. Structure is weak fine subangular blocky or thin or medium platy, or the horizon is massive. Consistence is friable or very friable.

The Bt horizon has hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 4. It has faint through prominent redoximorphic features. The fine-earth fraction generally is silt loam, very fine sandy loam, or silty clay loam, but many pedons have thin subhorizons of finer or coarser textures. Structure generally is subangular or angular blocky, but in some pedons it is coarse or very coarse prismatic. Patchy clay films are on faces of peds. Consistence is friable or firm. Reaction ranges from moderately acid through slightly alkaline.

The C or Cg horizons have hue of 5YR through 5Y or are neutral in hue. They have value of 3 through 6 and chroma of 0 through 6. The fine-earth fraction is dominantly very fine sandy loam, silt loam, or silty clay loam, but strata commonly range from fine sand through clay. Reaction ranges from neutral through moderately alkaline.

Correlation note: In the map units 41 (Niagara fine sandy loam) and 76 (Niagara silt loam), permeability in the subsoil and substratum is slightly outside the range of the Niagara series. This difference generally does not significantly affect the use and management of the soils.

Nicholville Series

The Nicholville series consists of very deep, moderately well drained soils on lake plains, terraces, and uplands. These soils formed in wind- or water-deposited material having a high content of silt and very fine sand. Slopes range from 0 to 8 percent.

Nicholville soils are commonly adjacent to and form a drainage sequence with well drained Salmon soils and somewhat poorly drained Roundabout soils. Somewhat excessively drained Adams soils and moderately well drained Croghan soils, both of which formed in sandy material, are near Nicholville soils on outwash plains and terraces.

Typical pedon of Nicholville silt loam, 3 to 8 percent slopes, in the town of Remsen, Oneida County, 1,100 feet north and 2,000 feet west of the intersection of Dustin Road and Countryman Road:

A—0 to 4 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many very fine and fine, common medium, and few coarse roots; 5 percent rock fragments; moderately acid; clear smooth boundary.

Bs1—4 to 10 inches; dark brown (7.5YR 3/4) silt loam; moderate fine and medium subangular blocky structure parting to moderate fine and medium granular; firm; few medium and coarse and common fine roots; 5 percent rock fragments; moderately acid; clear smooth boundary.

Bs2—10 to 20 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; firm; few fine and medium and common coarse roots; 10 percent rock fragments; moderately acid; clear smooth boundary.

BC1—20 to 22 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; firm; few fine and medium and common coarse roots; 10 percent rock fragments; common fine and medium distinct and prominent brownish yellow (10YR 6/6 and 10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation; moderately acid; clear smooth boundary.

BC2—22 to 36 inches; light brown (7.5YR 6/4) silt loam; moderate medium platy divisions; firm; few fine roots; 10 percent rock fragments; common coarse distinct light gray (10YR 7/2) and common coarse prominent white (10YR 8/1) iron depletions and common medium distinct yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of iron accumulation; moderately acid; abrupt smooth boundary.

2C—36 to 72 inches; grayish brown (10YR 5/2) very fine sandy loam; moderate medium platy divisions; firm; 10 percent rock fragments; many medium and coarse faint dark grayish brown (10YR 4/2) and prominent dark yellowish brown (10YR 4/6) masses of iron accumulation; moderately acid.

The thickness of the solum ranges from 12 to 38 inches. The depth to bedrock is more than 60 inches. The depth to contrasting deposits is more than 30 inches. The content of rock fragments, mostly gravel, ranges from 0 to 10 percent, by volume, throughout the profile. Redoximorphic features occur within a depth of 30 inches.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam or very fine sandy loam. Consistence is friable or very friable. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

Pedons in undisturbed areas typically have an O horizon and an E horizon and may have a Bhs or Bh horizon. Plowing usually destroys these horizons.

The E horizon, where present, has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is silt loam or very fine sandy loam. Consistence is friable or very friable. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

The Bhs or Bh horizon, where present, has hue of 5YR or 7.5YR and value and chroma of 3 or less. The fine-earth fraction ranges from loamy very fine sand through silt loam. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

The Bs horizons have hue of 5YR or 7.5YR, value of 3 through 5, and chroma of 2 through 4. The Bs2 horizon commonly has distinct redoximorphic features. The fine-earth fraction ranges from loamy very fine sand through silt loam. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

The BC horizons, where present, have hue of 10YR through 5Y, value of 4 or 5, and chroma of 3 or 4. They have distinct or prominent redoximorphic features. The fine-earth fraction ranges from loamy very fine sand through silt loam. Reaction ranges from very strongly acid through moderately acid.

The 2C horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction ranges from very fine sand through silt loam. The horizon is massive or single grain or has platelike divisions associated with depositional layers. Consistence is very friable through firm. Reaction ranges from very strongly acid through neutral.

Otego Series

The Otego series consists of very deep, moderately well drained soils on flood plains that are subject to occasional flooding. These soils formed in silty alluvium. Slopes range from 0 to 3 percent.

Otego soils are commonly adjacent to well drained Wenonah and Hamlin soils in the slightly higher positions. Somewhat poorly drained Wakeville soils and poorly drained Wayland soils are adjacent to Otego soils in the slightly lower areas on flood plains and in stream meander channels. Scio soils and well drained Unadilla soils are on the higher adjacent lacustrine plains or old alluvial terraces. Somewhat excessively drained Chenango soils are on nearby outwash terraces.

Typical pedon of Otego loam, in the town of Annsville, Oneida County, 50 feet south of Meadows Road, and seven-eighths of a mile southeast of the intersection of Ranney Road and Meadows Road, directly north of Fish Creek, along a hedgerow:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; many very fine and fine roots; less than 1 percent rock fragments; slightly acid (limed); abrupt smooth boundary.

Bw—11 to 20 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common very fine and fine roots; less than 1 percent rock fragments; slightly acid; clear smooth boundary.

BC—20 to 31 inches; brown (10YR 4/3) silt loam; few fine distinct yellowish brown (10YR 5/6) redoximorphic concentrations and common medium faint grayish brown (10YR 5/2) redoximorphic depletions; dark grayish brown (10YR 4/2) mottles along root channels; massive; friable; common very fine and fine roots; less than 1 percent rock fragments; moderately acid; clear smooth boundary.

C—31 to 72 inches; gray (10YR 5/1) gravelly loam; few medium prominent yellowish red (5YR 5/8) and common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; black (10YR 2/1) manganese concretions, which increase in amount with increasing depth; massive; friable; 15 percent rock fragments; moderately acid.

The thickness of the solum ranges from 24 to 48 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 5 percent, by volume, in the surface layer and subsoil and from 0 to 15 percent in the substratum. In some pedons strata below a depth of 40 inches have as much as 50 percent gravel and cobbles. Unless the soils have been limed, reaction ranges from strongly acid through slightly acid in the surface layer, the subsoil, and the upper part of the substratum and from strongly acid through neutral in the lower part of the substratum. The depth to carbonates is more than 80 inches.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 2 through 4 (6 or 7 dry), and chroma of 1 through 4. The fine-earth fraction is loam, silt loam, or very fine sandy loam. Structure is weak or moderate granular or subangular blocky. Consistence is friable or very friable.

The Bw horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 6. Some part of the profile from a depth of 12 to 24 inches has 2 to 50 percent redoximorphic depletions with chroma of 2 or less. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate subangular blocky or weak very coarse prismatic. Consistence is friable or very friable.

The BC horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 3 through 6. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak subangular blocky, or the horizon is massive. Consistence is friable or very friable.

The C horizon has hue of 7.5YR through 5Y, value of 4 through 6, and chroma of 1 through 4. The fine-earth fraction is silt loam, loam, or very fine sandy loam. Consistence is very friable or friable.

Some pedons have a 2C horizon. This horizon has hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 1 to 8, or it is multicolored. It is massive or single grain. The texture ranges from loam to very gravelly loamy sand, and in some pedons the horizon is stratified. Consistence is loose through friable and nonsticky and nonplastic.

Ovid Series

The Ovid series consists of very deep, somewhat poorly drained soils on till plains in the southern part of the county. These soils formed in moderately fine textured till derived from red shale or lacustrine clay mixed with limestone and sandstone. Slopes range from 0 to 8 percent.

Ovid soils are commonly adjacent to or form a drainage sequence with moderately well drained Cazenovia soils in the slightly higher landform positions. Poorly drained Lyons soils are near Ovid soils in the more concave areas. Well drained Honeoye soils and moderately well drained Lima soils are on nearby till landscapes. They are coarser textured than the Ovid soils. Fine textured Rhinebeck soils and moderately well drained Schoharie soils are near Ovid soils in a few areas on lake plains.

Typical pedon of Ovid silt loam, 3 to 8 percent slopes, in the town of Paris, Oneida County, 800 feet north and 1,500 feet west of the intersection of Oneida Street and Sulphur Springs Road:

Ap—0 to 11 inches; dark brown (7.5YR 3/2) silt loam, pinkish gray (7.5YR 6/2) dry; moderate fine subangular blocky structure parting to moderate medium granular; friable, nonsticky, nonplastic; many very fine and fine roots; common very fine and fine, discontinuous pores; less than 5 percent rock fragments; neutral (limed); abrupt smooth boundary.

BE—11 to 20 inches; brown (7.5YR 4/4) silt loam; few medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations in the lower part of the horizon; moderate fine and medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; common very fine, discontinuous pores; very few thin clay flows on faces of peds; 5 percent rock fragments; neutral; clear smooth boundary.

Bt1—20 to 26 inches; brown (7.5YR 4/4) silty clay loam; common medium and coarse prominent yellowish brown (10YR 5/8) redoximorphic concentrations; moderate and strong medium and coarse subangular blocky structure; firm, slightly sticky, nonplastic; few very fine and fine roots; common very fine and fine, discontinuous pores; common distinct moderately thick brown (7.5YR 4/2) clay films in pores and pinkish gray (7.5YR 6/2) ones on faces of peds; 10 percent rock fragments; neutral; clear smooth boundary.

Bt2—26 to 32 inches; brown (7.5YR 4/4) silty clay loam; common or many medium distinct yellowish brown (10YR 5/6) and common or many medium prominent strong brown (7.5YR 5/8) and olive yellow (2.5Y 6/8) redoximorphic concentrations; moderate medium and coarse subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common very fine and fine, discontinuous pores; many distinct moderately thick brown (7.5YR 4/2) clay films in pores and on faces of peds; 10 percent rock fragments; neutral; clear smooth boundary.

Bt3—32 to 39 inches; brown (7.5YR 4/4) silty clay loam; many medium and coarse prominent yellowish brown (10YR 5/8), olive yellow (2.5Y 6/8), and strong brown (7.5YR 5/8) redoximorphic concentrations and common medium distinct brown (7.5YR 4/2) redoximorphic depletions; strong coarse subangular blocky structure; firm, sticky, slightly plastic; common very fine, discontinuous pores; many distinct moderately thick clay flows and clay films in pores and on faces of peds; 10 percent rock fragments; neutral; clear smooth boundary.

C—39 to 72 inches; brown (7.5YR 4/2) gravelly silty clay loam; common medium prominent brownish yellow (10YR 6/6) and yellowish brown (10YR 5/8) redoximorphic concentrations and common fine and medium faint dark brown (7.5YR 3/2) redoximorphic depletions; weak lenticular platelike divisions; firm, slightly sticky, nonplastic; common very fine, discontinuous pores; common moderately thick clay flows in pores and on faces of peds; 20 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 40 inches. The depth to bedrock is more than 60 inches. The depth to carbonates ranges from 18 to 40 inches. The content of rock fragments ranges from 1 to 25 percent, by volume, typically increasing with increasing depth. Unless the soils have been limed, reaction is moderately acid or slightly acid in the surface layer and subsurface layer, moderately acid through neutral in the subsoil, and slightly alkaline or moderately alkaline in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 1 through 3. The fine-earth fraction ranges from fine sandy loam through silty clay loam. Structure is weak or moderate subangular blocky or granular.

Some pedons have an E horizon. This horizon has hue of 7.5YR or 5YR, value of 5 or 6, chroma of 2 or 3. The fine-earth fraction is similar to that in the Ap horizon.

The BE horizon has hue of 2.5YR through 7.5YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction ranges from fine sandy loam through silty clay loam. Structure is weak or moderate subangular blocky.

The Bt horizons have hue of 2.5YR through 7.5YR, value of 3 through 5, and chroma of 2 through 4. They have few to many redoximorphic concentrations and depletions. The fine-earth fraction is clay loam or silty clay loam, and the content of clay averages 28 to 35 percent. Structure is moderate or strong, medium or coarse subangular blocky, or it is very coarse prismatic parting to subangular blocky. Some pedons have free carbonates in the lower part of the B horizon.

The part of the C horizon above a depth of 40 inches is similar in color and texture to the B horizons. The C horizon has lenticular platelike divisions. Consistence is firm.

Palms Series

The Palms series consists of very deep, very poorly drained soils in bogs and depressional areas on lake plains, outwash plains, flood plains, and till plains. These soils formed in well decomposed organic material 16 to 51 inches deep over loamy deposits. Slopes range from 0 to 2 percent.

Palms soils are commonly adjacent to Carlisle soils, which have organic material more than 51 inches thick. Poorly drained Canandaigua soils and poorly drained or very poorly drained Lamson soils are near Palms soils. They have no organic deposits, except for a thin mucky surface layer in some areas. Canandaigua soils are underlain by silty material, and Lamson soils are underlain by sandy material. In some areas Palms soils are near Adrian soils, which are underlain by sandy material.

Typical pedon of Palms muck, in the town of Verona, Oneida County, 100 feet north of Dwyer Road and 0.25 mile northwest of Stony Brook:

Oa1—0 to 10 inches; black (10YR 2/1) (broken face and rubbed) sapric material (muck); 10 percent fibers unrubbed, 5 percent fibers rubbed; weak medium granular structure; very friable; many fine and medium roots; neutral; gradual smooth boundary.

Oa2—10 to 18 inches; black (10YR 2/1) (rubbed) sapric material (muck); 15 percent fibers unrubbed, 5 percent fibers rubbed; weak coarse subangular blocky structure; very friable; many fine roots; neutral; abrupt smooth boundary.

C1—18 to 24 inches; grayish brown (10YR 5/2) silty clay loam; few fine distinct yellowish brown (10YR 5/4) redoximorphic concentrations; weak coarse prismatic structure; friable; common fine roots; neutral; clear smooth boundary.

C2—24 to 72 inches; grayish brown (10YR 5/2) silt loam; few fine distinct yellowish brown (10YR 5/4) redoximorphic concentrations; massive; friable; neutral.

The depth to loamy material ranges from 16 to 51 inches. The organic material is derived primarily from herbaceous plants, but some layers have as much as 15 percent woody material. Reaction in the organic layers ranges from strongly acid through slightly alkaline. Some organic layers have free carbonates.

The surface tier is neutral in hue or has hue of 5YR through 10YR. It has value of 2 or 3 and chroma of 0 through 2. It is dominantly sapric material (muck) but in some pedons is hemic material (mucky peat).

The subsurface and bottom tiers have hue of 5YR through 10YR or are neutral in hue. They have value of 2 through 4 and chroma of 0 through 3. Some pedons have layers of hemic material (mucky peat) less than 10 inches thick, and some have layers of fibric material (peat) less than 5 inches thick. Some pedons have a thin layer of sedimentary peat above the C horizon. Some have a thin A horizon above the C horizon.

The C horizon is neutral in hue or has hue of 10YR, 2.5Y, 5Y, or 5GY. It has value of 3 through 7 and chroma of 0 through 4. The fine-earth fraction generally is loamy very fine sand, sandy loam, fine sandy loam, loam, silt loam, silty clay loam, clay loam, or sandy clay loam, but some pedons have thin strata of fine sand, loamy sand, or silt. The upper 12 inches of this horizon averages between 10 and 35 percent clay. Reaction ranges from slightly acid through moderately alkaline. The content of rock fragments (gravel to stones) ranges from 0 to 25 percent, by volume. In some pedons the horizon has free carbonates.

Phelps Series

The Phelps series consists of very deep, moderately well drained soils on nearly level to gently sloping outwash plains and terraces. These soils formed in loamy material over deposits of stratified sand and gravel. Slopes range from 0 to 8 percent.

Phelps soils commonly are near and form a drainage sequence with somewhat excessively drained Howard soils, somewhat poorly drained Fredon soils, and very poorly drained Halsey soils. In a few areas they are near Castile soils, which are similar to the Phelps soils but are lower in content of lime.

Typical pedon of Phelps silt loam, 0 to 3 percent slopes, in the town of Bridgewater, Oneida County, one-fourth of a mile east of New York Route 8 and one-third of a mile north of Cemetery Road (Swamp Road), in a cultivated field:

Ap—0 to 7 inches; dark brown (7.5YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many fine and very fine roots; few very fine pores; 10 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; neutral; abrupt smooth boundary.

E—7 to 10 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable; many fine and very fine roots; 10 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; neutral; abrupt smooth boundary.

Bt/E—10 to 15 inches; brown (10YR 4/3) gravelly silt loam; few fine faint dark yellowish brown (10YR 4/4) redoximorphic concentrations; weak fine granular structure in the upper part of the horizon and weak medium subangular blocky structure in the lower part; friable; many very fine roots; few very fine pores; thin patchy clay films in tubular pores and on faces of peds (B part); on faces of peds, less than 15 percent brown (10YR 5/3 moist) and light gray (10YR 7/2 dry) silt coatings 1 millimeter thick (E part); 20 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

Bt—15 to 25 inches; brown (10YR 4/3) gravelly silt loam; few fine prominent yellowish red (5YR 5/8) and brownish yellow (10YR 6/8) redoximorphic concentrations and few fine faint brown (7.5YR 5/2) redoximorphic depletions; moderate medium subangular blocky structure; friable; common very fine roots; few very fine tubular pores; 30 percent rock fragments, including 5 percent fragments more than 3 inches in diameter; neutral; clear wavy boundary.

2C1—25 to 34 inches; dark brown (10YR 3/3) very gravelly loamy sand; single grain; friable; few very fine roots; common very fine tubular pores; 45 percent rock fragments, including 10 percent fragments more than 3 inches in diameter; slightly effervescent; slightly alkaline; clear wavy boundary.

2C2—34 to 72 inches; dark brown (10YR 3/3) very gravelly loamy sand; single grain; friable; few very fine roots; common very fine tubular pores; 45 percent rock fragments, including 3 percent fragments more than 3 inches in diameter; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 24 to 40 inches and corresponds to depth to the underlying sand and gravel. The depth to carbonates ranges from 18 to 72 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, in the solum and from 35 to 70 percent in the substratum. Reaction is moderately acid through neutral in the surface layer and subsoil, slightly acid through slightly alkaline in the BC horizon (where this horizon is present), and slightly alkaline or moderately alkaline in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction ranges from sandy loam through silt loam. Structure is moderate fine or medium granular. Consistence is friable or very friable.

The E horizon has hue of 5YR through 10YR, value of 5 or 6, and chroma of 2 or 3. The fine-earth fraction is loam, silt loam, or clay loam. Structure is subangular blocky or granular.

The B/E horizon has hue of 5YR through 10YR, value of 5 or 6, and chroma of 2 or 3 in the E part and hue of 5YR through 10YR, value of 3 through 5, and chroma of 3 or 4 in the B part. In some pedons this horizon has redoximorphic depletions or concentrations, or both. The fine-earth fraction is loam, silt loam, or clay loam. Structure is weak or moderate subangular blocky or granular.

The Bt horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 3 or 4. It has redoximorphic depletions and concentrations. The depletions occur in the upper 10 inches of the horizon. The fine-earth fraction is loam, silt loam, or clay loam. Structure is moderate medium or coarse subangular blocky. Consistence is friable or firm.

Some pedons have a BC horizon. This horizon is similar in color to the Bt horizon. In some pedons it includes a sandy loam texture and platy structure.

The 2C horizons have hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is sand or loamy sand, or the horizon is stratified sand and gravel.

Pinckney Series

The Pinckney series consists of very deep, moderately well drained soils on glaciated uplands in the northern part of the county. These soils formed in firm till derived from shale, siltstone, and some limestone and have a silt-enriched surficial deposit and a fragipan in the subsoil. Slopes range from 3 to 25 percent.

Pinckney soils are commonly adjacent to and form a drainage sequence with somewhat poorly drained Camroden soils and poorly drained Marcy soils. Well drained Bice soils are in nearby areas in the northwestern part of the county. They do not have a fragipan in the subsoil. Kalurah soils and somewhat poorly drained Malone soils are near Pinckney soils in areas where the till is higher in content of lime.

Typical pedon of Pinckney silt loam, 3 to 8 percent slopes, in the town of Ava, Oneida County, 1.25 miles southeast of West Leyden, directly east of a dirt road (extension of a road leading to a farm):

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine and medium granular structure; very friable; many fine, few medium, and very few coarse roots; 2 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—8 to 15 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; common fine and few medium roots; few tubular pores; 2 percent rock fragments; moderately acid; gradual wavy boundary.

Bw2—15 to 22 inches; brown (10YR 4/3) silt loam; weak medium and coarse subangular blocky structure; friable; common fine roots; common fine vesicular and few fine tubular pores; 5 percent rock fragments, including 1 percent fragments more than 3 inches in diameter; moderately acid; clear smooth boundary.

2E—22 to 25 inches; grayish brown (2.5Y 5/2) channery loam; common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable; few fine roots; few tubular and common vesicular pores; 15 percent rock fragments; moderately acid; clear smooth boundary.

2Bx—25 to 43 inches; grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/4) channery loam; moderate very coarse prismatic structure; separating the prisms, streaks that are 12 to 20 inches apart, with light brownish gray (2.5Y 6/2) prism interiors and reddish yellow (7.5YR 6/8) edges; very firm and weakly brittle; few fine roots along faces of prisms; common fine tubular pores with common distinct clay films; 25 percent rock fragments; strongly acid; gradual smooth boundary.

2Cd—43 to 72 inches; grayish brown (2.5Y 5/2) channery loam; massive; firm; 30 percent rock fragments, including 14 percent fragments more than 3 inches in diameter; moderately acid.

The thickness of the solum ranges from 38 to 70 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 20 to 30 inches. The content of rock fragments ranges from 0 to 20 percent, by volume, above the fragipan and from 10 to 35 percent in the fragipan and substratum. It includes as much as 15 percent fragments more than 3 inches in diameter.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam, loam, or very fine sandy loam. Structure is weak or moderate granular. Consistence is very friable or friable. Reaction ranges from very strongly acid through moderately acid, unless the soils have been limed.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 6. The fine-earth fraction is silt loam, loam, or very fine sandy loam. Structure is very weak through moderate, fine through coarse, subangular blocky or granular. Consistence is friable or very friable. Reaction ranges from very strongly acid through moderately acid, unless the soils have been limed. Some pedons have a thin E or 2E horizon directly above the fragipan. This horizon is light grayish brown or pale brown. The fine-earth fraction ranges from silt loam through fine sandy loam. Some pedons have redoximorphic features in the Bw2 or E horizon.

The 2Bx horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam or fine sandy loam with prominent shale fragments. Structure is strong or moderate very coarse prismatic parting to subangular blocky or platy, or the horizon is massive within prisms. Consistence is firm or very firm. Reaction ranges from strongly acid through slightly acid.

The 2Cd horizon has hue of 10YR through 5Y, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is loam or fine sandy loam with prominent shale fragments. Consistence is firm. Reaction ranges from strongly acid through neutral. Some pedons have a friable 2C horizon.

Pittsfield Series

The Pittsfield series consists of very deep, well drained soils on till plains in the uplands. These soils formed in glacial till that is medium to high in content of lime. Slopes range from 0 to 45 percent.

Pittsfield soils are commonly adjacent to well drained Nellis and Honeoye soils and moderately well drained Amenia soils, all of which are on the same landforms as the Pittsfield soils and have carbonates above a depth of 40 inches. Moderately well drained Phelps soils and somewhat excessively drained Howard soils are adjacent to Pittsfield soils on outwash plains. In a few areas Chadakoin soils are near Pittsfield soils. They are more acid throughout than the Pittsfield soils.

Typical pedon of Pittsfield loam, 3 to 8 percent slopes, in the town of Marshall, Oneida County, one-third of a mile due east of Route 12B and one-eighth of a mile north of Burnham Road:

Ap—0 to 9 inches; dark brown (10YR 3/3) loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine and very fine roots; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

Bw1—9 to 15 inches; yellowish brown (10YR 5/6) loam; weak fine and medium granular structure; friable; common fine and very fine roots; 5 percent rock fragments; moderately acid; clear smooth boundary.

Bw2—15 to 22 inches; dark yellowish brown (10YR 4/4) loam; weak fine and medium granular structure; friable; common fine and very fine roots; 5 percent rock fragments; moderately acid; clear smooth boundary.

BC—22 to 32 inches; dark yellowish brown (10YR 4/4) fine sandy loam; few medium faint brown (10YR 5/3) and few medium prominent brownish yellow (10YR 6/8) redoximorphic concentrations in the lower part of the horizon; massive; friable; lenses of loamy fine sand in the lower 2 inches of the horizon; few very fine roots; 5 percent rock fragments; moderately acid; clear smooth boundary.

C1—32 to 45 inches; dark yellowish brown (10YR 4/4) fine sandy loam; massive; friable; 5 percent rock fragments; slightly acid; clear smooth boundary.

C2—45 to 72 inches; dark yellowish brown (10YR 3/4) fine sandy loam; massive; friable; 5 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 20 to 45 inches. The depth to bedrock is more than 65 inches. The content of rock fragments ranges from 0 to 20 percent, by volume, in the A horizon and from 5 to 34 percent in the B and C horizons. The content of cobblestones ranges from 0 to 15 percent in the A horizon, from 0 to 10 percent in the B horizon, and from 0 to 15 percent in the C horizon. The content of gravel ranges from 0 to 15 percent in the A horizon, from 5 to 15 percent in the B horizon, and from 5 to 20 percent in the C horizon. The depth to carbonates ranges from 40 to 72 inches. Reaction ranges from very strongly acid through neutral in the A or Ap horizon, from strongly acid through neutral in the upper part of the B horizon, from moderately acid through neutral in the lower part of the B horizon, and from moderately acid through moderately alkaline in the C horizon. Base saturation is more than 60 percent in some part of the profile from a depth of 10 to 30 inches.

The Ap horizon has hue of 10YR, value of 2 through 4, and chroma of 1 through 3. The fine-earth fraction is loam or fine sandy loam. Structure is weak or moderate fine or medium granular. Consistence is friable or very friable.

The Bw horizons have hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 6. The fine-earth fraction is fine sandy loam or loam. Structure is weak fine or medium granular or weak fine and medium subangular blocky. Consistence is friable or very friable.

The BC horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 through 4. Chroma of 2 is lithochromic and not related to wetness. The fine-earth fraction is sandy loam, fine sandy loam, or loam. The horizon is massive or has weak thick or very thick platy structure. In some pedons the lower part of the horizon has a few high-chroma redoximorphic concentrations.

The C horizons have hue of 10YR or 2.5Y, value of 3 through 5, and chroma of 2 through 4. Chroma of 2 is lithochromic and not related to wetness. The fine-earth fraction generally is loam, fine sandy loam, or sandy loam. Pockets or lenses of loamy sand or sand occur in some pedons.

Pyrities Series

The Pyrities series consists of very deep, well drained soils on side slopes and hilltops in the valleys of the Black River and the Mohawk River in the northern part of the county. These soils formed in loamy, calcareous glacial till derived mainly from Utica shales, Frankfort shales, and Trenton limestone. Slopes range from 3 to 45 percent.

Pyrities soils commonly are adjacent to and form a drainage sequence with moderately well drained Kalurah soils, somewhat poorly drained Malone soils, and poorly drained Runeberg soils. Poorly drained Marcy soils are near Pyrities soils in a few depressional areas. Pyrities soils are commonly adjacent to Bice soils, which are more acid than the Pyrities soils.

Typical pedon of Pyrities loam, 3 to 8 percent slopes, in the town of Remsen, Oneida County, 50 feet east of Commons Road and 1 mile west of the intersection of Commons Road and Bardwell Mills Road:

Ap—0 to 8 inches; dark brown (10YR 3/3) loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; common medium and many fine and very fine roots; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

Bw1—8 to 15 inches; yellowish brown (10YR 5/6) fine sandy loam; moderate medium subangular blocky structure; friable; common fine and very fine roots; 10 percent rock fragments; slightly acid; gradual wavy boundary.

Bw2—15 to 27 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium and coarse subangular blocky structure; friable; few fine roots; 10 percent rock fragments; slightly acid; clear smooth boundary.
C1—27 to 66 inches; brown (10YR 4/3) gravelly fine sandy loam; massive; friable; 20 percent rock fragments; neutral; gradual smooth boundary.
C2—66 to 72 inches; brown (10YR 4/3) gravelly fine sandy loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; massive; friable; 20 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum ranges from 25 to 50 inches. The depth to bedrock is more than 60 inches. The depth to free carbonates ranges from 40 to 80 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, in the solum and from 5 to 50 percent in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 2 through 4, and chroma of 1 through 3. The fine-earth fraction is fine sandy loam, loam, or silt loam. Reaction ranges from moderately acid through neutral.

The Bw horizons have hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 3 through 6. The fine-earth fraction commonly is fine sandy loam, but in some pedons it is sandy loam or loam. Reaction ranges from slightly acid through slightly alkaline.

Some pedons have a BC horizon. This horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 3 through 6. The fine-earth fraction is fine sandy loam, sandy loam, or loam. Reaction ranges from slightly acid through slightly alkaline.

The C horizons have hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is generally fine sandy loam, sandy loam, or loam. Some pedons have thin layers of loamy sand. Reaction ranges from slightly acid through moderately alkaline.

Rhinebeck Series

The Rhinebeck series consists of very deep, somewhat poorly drained soils on glacial lake plains and on uplands mantled with lake sediments. These soils formed in clayey lacustrine sediments. Slopes range from 0 to 8 percent.

Rhinebeck soils are commonly adjacent to moderately well drained Schoharie soils in the slightly higher landform positions. Poorly drained or very poorly drained Canandaigua soils are in the slightly lower nearby landform positions. Somewhat poorly drained Niagara and Minoa soils are on landforms similar to those of the Rhinebeck soils. They have less clay in the upper 40 inches than the Rhinebeck soils.

Typical pedon of Rhinebeck silt loam, 0 to 3 percent slopes, in the city of Rome, Oneida County, 0.8 mile west of the intersection of New York Routes 69 and 49 and 200 feet north of Route 69:

Ap—0 to 9 inches; dark gray (10YR 4/1) silt loam, light brownish gray (10YR 6/2) dry; few fine prominent yellowish brown (10YR 5/8) mottles; moderate medium granular structure; friable; many fine and common very fine roots; common fine tubular pores; slightly acid; abrupt smooth boundary.
Bt1—9 to 17 inches; brown (10YR 4/3) silty clay loam; common fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; thin distinct patchy clay films on faces of peds; dark grayish brown (10YR 4/2) faces of peds; moderate medium subangular blocky structure; firm; many fine and medium tubular pores with clay linings; slightly acid; clear smooth boundary.
Bt2—17 to 28 inches; brown (7.5YR 4/2) silty clay loam; few fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations and common fine prominent gray (N 5/0) redoximorphic depletions; thick patchy gray (10YR 5/1) clay films on faces

of peds; moderate medium and coarse subangular blocky structure; firm; common fine and medium tubular pores with clay linings; slightly alkaline; clear smooth boundary.

BC—28 to 35 inches; brown (7.5YR 5/4) and reddish brown (5YR 4/3) silty clay loam; thin patchy gray (10YR 5/1) clay films on faces of peds and in pores; weak coarse prismatic structure parting to weak medium and coarse subangular blocky; firm; moderately alkaline; strongly effervescent; gradual irregular boundary.

C—35 to 72 inches; reddish brown (5YR 4/3) silty clay loam; massive; firm; moderately alkaline; strongly effervescent.

The thickness of the solum ranges from 20 to 40 inches. The depth to carbonates ranges from 20 to 72 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 25 percent, by volume, in the surface layer and from 0 to 10 percent in the subsoil and substratum. Reaction ranges from strongly acid through neutral in the A horizon, from strongly acid through slightly alkaline in the Bt horizon, and from slightly acid through moderately alkaline in the BC and C horizons.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 2 through 4, and chroma of 1 through 3. The fine-earth fraction is silt loam, loam, or silty clay loam. Structure is granular or subangular blocky. Consistence is very friable or friable.

The Bt or Btg horizons have hue of 7.5YR through 5Y, value of 3 through 5, and chroma of 2 through 4. They have redoximorphic features. The fine-earth fraction is silty clay loam or silty clay. Structure is weak or strong prismatic, subangular blocky, or angular blocky. Consistence is firm or very firm.

The BC horizon is similar in color, texture, and structure to the Bt horizons, but in some pedons has platelike divisions inherited from the lacustrine parent material. The horizon is either calcareous or noncalcareous. Consistence is firm or very firm.

The C horizon has hue of 5YR through 5Y or is neutral in hue. It has value of 3 through 5 and chroma of 0 through 4. The fine-earth fraction generally is silt loam, silty clay loam, silty clay, or clay, but in subhorizons, which are generally discontinuous, it ranges to fine sand. The horizon is massive or varved or has very coarse prismatic structure in the upper part. Free carbonates do not occur above a depth of 72 inches in some pedons.

Roundabout Series

The Roundabout series consists of very deep, somewhat poorly drained or poorly drained soils on glacial lake plains. These soils are dominantly somewhat poorly drained and formed in lacustrine sediments having a medium content of lime and a high content of silt and very fine sand. Slopes range from 0 to 8 percent.

Roundabout soils are commonly adjacent to and form a drainage sequence with well drained Salmon and moderately well drained Nicholville soils in the slightly higher landform positions. They are near somewhat poorly drained Naumburg soils, which are more sandy than the Roundabout soils.

Typical pedon of Roundabout silt loam, 0 to 3 percent slopes, in the town of Boonville, Oneida County, 0.5 mile east of the intersection of Hawkinsville Road and Keller Road and 50 yards south of Hawkinsville Road:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; friable; many fine and very fine roots; slightly acid; clear smooth boundary.

Bw—10 to 14 inches; dark yellowish brown (10YR 4/4) and pale brown (10YR 6/3) silt loam; moderate medium subangular blocky structure; friable; common fine and very fine roots; slightly acid; clear smooth boundary.

Bg1—14 to 20 inches; grayish brown (10YR 5/2) very fine sandy loam; few fine distinct dark yellowish brown (10YR 4/4) redoximorphic concentrations; moderate medium subangular blocky structure; firm; few fine roots; slightly acid; clear smooth boundary.

Bg2—20 to 35 inches; grayish brown (10YR 5/2) silt loam; common medium faint dark grayish brown (10YR 4/2) redoximorphic depletions; many medium prominent yellowish brown (10YR 5/8) and many medium distinct dark yellowish brown (10YR 4/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; friable; few fine roots; slightly acid; clear wavy boundary.

C—35 to 72 inches; dark grayish brown (2.5Y 4/2) silt loam; common medium distinct dark yellowish brown (10YR 4/4) redoximorphic concentrations; massive; friable; slightly acid.

The thickness of the solum ranges from 16 to 48 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mostly gravel, is less than 5 percent, by volume. Reaction generally ranges from very strongly acid through slightly acid in the solum and from moderately acid through neutral in the substratum. In some pedons, however, it ranges to moderately alkaline below a depth of 40 inches. Below the Ap horizon and within 20 inches of the mineral soil surface, a subhorizon having chroma of 2 or less has redoximorphic concentrations.

Some pedons have an Oa horizon. This horizon has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 or 2. Structure is weak or moderate, very fine through medium granular.

The Ap horizon has hue of 10YR, value of 3 or 4 (6 or 7 dry), and chroma of 2 through 4. Structure is weak through strong, fine or medium granular. The fine-earth fraction is silt loam or very fine sandy loam. Consistence is very friable or friable. Pedons in undisturbed areas have an A horizon, which is as much as 6 inches thick. This horizon has hue of 7.5YR or 10YR, value of 3 through 5 (6 or 7 dry), and chroma of 1 or 2. Structure is weak or moderate, very fine through medium, granular or subangular blocky.

Some pedons have an E horizon. This horizon has hue of 5Y, value of 5 through 7, and chroma of 1 or 2. Structure is weak or moderate, thin or medium platy or weak fine granular. The fine-earth fraction is silt loam or very fine sandy loam. Consistence is very friable or friable.

The B horizons have hue of 10YR through 5Y, value of 3 through 6, and chroma of 1 through 4. One or more subhorizons have chroma of 2 and faint through prominent redoximorphic concentrations. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate, thin through thick platy, weak or moderate, very fine through medium subangular blocky, or weak fine granular. Consistence is friable or firm.

Some pedons have a BC horizon. This horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 1 through 4. It has faint through prominent redoximorphic features. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate, thin through thick platy. Consistence is friable or firm.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 4. It has faint through prominent redoximorphic features. The fine-earth fraction generally is silt loam or very fine sandy loam. In some pedons the texture is fine sand or gravelly sand below a depth of 40 inches. The horizon is structureless or has weak or moderate platelike divisions. Consistence is loose through very firm.

Runeberg Series

The Runeberg series consists of very deep, poorly drained or very poorly drained soils on plane or concave slopes on glacial moraines and in drumlin fields. These soils are dominantly poorly drained and formed in loamy till. Slopes range from 0 to 2 percent.

Runeberg soils commonly are near and form a drainage sequence with well drained Pyrites soils, moderately well drained Kalurah soils, and somewhat poorly drained Malone soils. They are similar to poorly drained Marcy soils, which are more acid than the Runeberg soils.

Typical pedon of Runeberg loam, in the town of Remsen, Oneida County, 100 feet east of Route 12 and 0.4 mile south of the intersection of Route 12 and Pritchard Road:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; many fine roots; 3 percent rock fragments; slightly acid; abrupt smooth boundary.

Bg1—9 to 12 inches; grayish brown (10YR 5/2) loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; slightly acid; abrupt wavy boundary.

Bg2—12 to 16 inches; grayish brown (10YR 5/2) loam; few fine faint dark grayish brown (10YR 4/2) redoximorphic depletions and many moderate medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; moderate medium subangular blocky structure; firm; 10 percent rock fragments; slightly acid; gradual wavy boundary.

Bg3—16 to 26 inches; grayish brown (10YR 5/2) loam; many medium prominent brownish yellow (10YR 6/8) redoximorphic concentrations; weak medium subangular blocky structure; firm; few fine roots; 10 percent rock fragments; slightly acid; clear wavy boundary.

C—26 to 72 inches; grayish brown (10YR 5/2) loam; few fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; massive; firm; 10 percent rock fragments; slightly effervescent; slightly alkaline.

The thickness of the solum and the depth to free carbonates range from 17 to 36 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 3 to 15 percent, by volume, in the solum and is as much as 20 percent in the substratum. The mollic epipedon ranges from 8 to 20 inches in thickness.

Some pedons in undisturbed areas have an O horizon, which is as much as 4 inches thick.

The A or Ap horizon has hue of 10YR through 5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. It has redoximorphic features in some pedons. The fine-earth fraction is sandy loam, fine sandy loam, loam, or the mucky analogs of those textures. Reaction is slightly acid or neutral.

The Bg horizons have hue of 10YR through 5Y, value of 4 or 5, and chroma of 1 or 2. They have faint through prominent redoximorphic features throughout. The fine-earth fraction is sandy loam or loam. Reaction is slightly acid or neutral.

The C horizon has hue of 10YR through 5Y, value of 5 or 6, and chroma of 1 through 3. It has faint through prominent redoximorphic features. The fine-earth fraction is sandy loam to loam. Reaction generally is slightly alkaline or moderately alkaline, but in some pedons the upper part of the horizon ranges to slightly acid.

Correlation note: The annual precipitation in map unit 462 (Runeberg loam) is slightly above the range of the Runeberg series. This difference, however, does not significantly affect the use and management of the soil.

Salmon Series

The Salmon series consists of very deep, well drained soils on glacial lake plains and uplands. These soils formed in wind- or water-deposited material having a high content of silt and very fine sand. Slopes range from 2 to 8 percent.

Salmon soils are commonly adjacent to and form a drainage sequence with moderately well drained Nicholville soils and somewhat poorly drained Roundabout soils. They are near somewhat excessively drained Adams and moderately well drained Croghan soils, both of which formed in sandy material.

Typical pedon of Salmon silt loam, 2 to 8 percent slopes, in the town of Boonville, Oneida County, 0.75 mile due south of Hawkinsville Road and 250 yards east of the Black River:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, gray (10YR 6/1) dry; weak medium granular structure; very friable; 2 percent rock fragments; strongly acid; abrupt smooth boundary.

Bs1—7 to 12 inches; brown (7.5YR 4/4) very fine sandy loam; weak fine and medium subangular blocky structure; very friable; less than 5 percent rock fragments; strongly acid; clear smooth boundary.

Bs2—12 to 27 inches; strong brown (7.5YR 4/6) very fine sandy loam; weak medium subangular blocky structure; friable; less than 5 percent rock fragments; very strongly acid; clear smooth boundary.

C—27 to 45 inches; grayish brown (10YR 5/2) very fine sandy loam; massive; very friable; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

2C—45 to 72 inches; brown (10YR 5/3), stratified sandy loam; massive; very friable; 10 percent rock fragments; strongly acid.

The thickness of the solum ranges from 20 to 30 inches. The depth to bedrock is more than 60 inches. The depth to contrasting coarse textured material is more than 40 inches. The content of clay is less than 18 percent and typically is less than 12 percent. The content of rock fragments, mostly gravel, ranges from 0 to 10 percent, by volume, throughout the profile.

Some pedons in undisturbed areas have an O horizon. This horizon is 1 to 4 inches thick. It is fibric material (peat), hemic material (mucky peat), or sapric material (muck).

The Ap horizon has hue of 7.5YR or 10YR or is neutral in hue. It has value of 2 through 4 and chroma of 0 through 4. The fine-earth fraction is silt loam or very fine sandy loam. Consistence is friable or very friable. Reaction ranges from extremely acid through moderately acid, unless the soils have been limed.

Some pedons have an E horizon, which is as much as 7 inches thick. They also have a Bh or Bhs horizon, which is as much as 4 inches thick.

The upper part of the Bs horizon has hue of 5YR or 7.5YR, value of 3 through 6, and chroma of 3 through 8, and the lower part has hue of 7.5YR through 5Y, value of 3 through 5, and chroma of 3 through 6. The fine-earth fraction is silt loam or very fine sandy loam. Structure is granular or subangular blocky. Consistence is friable or very friable. Reaction ranges from extremely acid through moderately acid.

Some pedons have a BC horizon. This horizon has hue of 7.5YR through 5Y, value of 4 or 5, and chroma of 2 through 4.

The C and 2C horizons have hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction is very fine sandy loam or silt loam above a depth of 36 inches and ranges from loamy very fine sand to silt loam below that depth. In some pedons the horizons are stratified. The are massive or have platelike divisions associated with depositional layers. Reaction ranges from strongly acid through slightly acid.

Schoharie Series

The Schoharie series consists of very deep, moderately well drained soils on lake plains or on glacial landforms mantled by lacustrine sediments. These soils formed in reddish, clayey lacustrine sediments. Slopes range from 0 to 40 percent.

Schoharie soils are commonly adjacent to and form a drainage sequence with somewhat poorly drained Rhinebeck and poorly drained Canandaigua soils in the slightly lower landscape positions. In some areas they are near Collamer soils, which have less clay than the Schoharie soils.

Typical pedon of Schoharie silt loam, 3 to 8 percent slopes, in the town of Kirkland, Oneida County, one-third of a mile north of the intersection of Sawyer Road and Post Road and 1,000 feet east of Post Road:

Ap—0 to 10 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate medium and coarse granular structure; friable; many fine and medium roots; slightly acid; abrupt smooth boundary.

Bt1—10 to 14 inches; reddish brown (5YR 5/3) silty clay loam; common medium distinct yellowish red (5YR 5/6) and few prominent distinct strong brown (7.5YR 5/6) redoximorphic concentrations; moderate medium subangular blocky structure; friable; common fine roots; neutral; clear wavy boundary.

Bt2—14 to 39 inches; reddish brown (5YR 5/3) silty clay; common medium prominent strong brown (7.5YR 5/6) redoximorphic concentrations; strong medium and coarse angular blocky structure; firm; few fine roots; common fine pores; thick clay flows in pores and on faces of peds; neutral; clear wavy boundary.

BC—39 to 55 inches; reddish brown (5YR 4/4) silty clay; strong coarse angular blocky structure; firm; few fine roots; few fine pores with thick gray (10YR 5/1) clay flows; slightly effervescent; moderately alkaline; clear wavy boundary.

C—55 to 72 inches; brown (7.5YR 4/4) silty clay; massive; firm; strongly effervescent; moderately alkaline.

The thickness of the solum and the depth to carbonates range from 20 to 55 inches. The depth to bedrock is more than 60 inches. The content of rock fragments ranges from 0 to 3 percent, by volume, above a depth of 40 inches.

The Ap horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is weak or moderate granular or fine blocky. Reaction ranges from moderately acid through neutral, unless the soils have been limed.

The Bt horizons have hue of 10R through 5YR, value of 4 or 5, and chroma of 3 or 4. Some pedons have subhorizons with redoximorphic concentrations having hue of 10R through 7.5YR and chroma 3 through 8. The fine-earth fraction ranges from silty clay loam through clay. The content of clay averages more than 35 percent. Structure is moderate or strong subangular or angular blocky or coarse or very coarse prismatic. Reaction ranges from moderately acid through slightly alkaline, and the lower few inches are calcareous in some pedons.

The BC horizon has hue of 10R through 5YR, value of 4 or 5, and chroma of 3 or 4. Consistence is firm or very firm. Reaction is slightly alkaline or moderately alkaline.

The C horizon has hue of 10R through 7.5YR, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is silty clay or clay. Reaction is slightly alkaline or moderately alkaline.

Scio Series

The Scio series consists of very deep, moderately well drained soils on lake plains and alluvial terraces. These soils formed in wind- or water-deposited silt and very fine sand. Slopes range from 0 to 8 percent.

Scio soils are commonly adjacent to well drained Unadilla soils in the slightly more convex landscape positions. Somewhat poorly drained Wakeville soils and moderately well drained Otego soils are on nearby flood plains.

Typical pedon of Scio silt loam, 0 to 3 percent slopes, in the city of Rome, Oneida County, 100 feet south of Fish Creek Landing Road and 1.1 miles west New York Route 49:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; friable; many fine and very fine, common medium, and few coarse roots; less than 1 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—8 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; common fine and very fine and few medium and coarse roots; very strongly acid; clear smooth boundary.

Bw2—12 to 20 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; common fine and very fine roots; strongly acid; clear smooth boundary.

Bw3—20 to 32 inches; yellowish brown (10YR 5/6) silt loam; common medium faint strong brown (7.5YR 5/6) and common medium prominent light brownish gray (10YR 6/2) redoximorphic depletions; weak fine subangular blocky structure; friable; strongly acid; clear smooth boundary.

C—32 to 72 inches; brown (10YR 5/3) silt loam; massive; friable; moderately acid.

The thickness of the solum ranges from 20 to 48 inches. The depth to bedrock is more than 60 inches. The depth to contrasting material is more than 40 inches. The depth to free carbonates is more than 80 inches. The content of rock fragments, mainly gravel and cobbles, ranges from 0 to 5 percent, by volume, above a depth of 40 inches and from 0 to 60 percent below that depth.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is silt loam, very fine sandy loam, or fine sandy loam. Structure is weak or moderate, fine or medium granular. Consistence is very friable or friable. Reaction ranges from extremely acid through strongly acid, unless the soils have been limed.

The Bw horizons have hue of 7.5YR through 5Y, value of 4 or 5, and chroma of 3 through 6. Redoximorphic depletions and accumulations are within a depth of 24 inches. The fine-earth fraction is very fine sandy loam or silt loam. Structure is weak or moderate, thin through thick platy or fine through coarse prismatic or subangular blocky. Consistence is very friable or friable. Reaction ranges from extremely acid through strongly acid within a depth of 30 inches and from very strongly acid through moderately acid below that depth.

Some pedons have a BC horizon. This horizon has colors and textures similar to those of the B horizon. Structure is weak or moderate, thin through thick platy or fine through coarse prismatic or subangular blocky. Consistence is friable or very friable. Reaction ranges from extremely acid through strongly acid within a depth of 30 inches and from very strongly acid through moderately acid below that depth.

The C horizon has hue of 7.5YR through 5Y, value of 4 through 6, and chroma of 1 through 4. The fine-earth fraction ranges from silt loam through fine sandy loam. The horizon is massive or single grain or has platelike divisions. Consistence is loose through firm. Reaction ranges from strongly acid through slightly alkaline.

Some pedons have a 2C horizon. This horizon has hue of 7.5YR through 5Y, value of 3 through 6, and chroma of 1 through 4. The fine-earth fraction is silt loam, very fine sandy loam, or loamy very fine sand above a depth of 40 inches and ranges from fine sandy loam through very gravelly sand below that depth. The horizon is massive or single grain. Consistence is loose or friable. Reaction ranges from strongly acid through slightly alkaline.

Skerry Series

The Skerry series consists of very deep, moderately well drained soils on side slopes and footslopes in the Adirondack foothills, in the northeastern part of the county. These soils formed in a friable, loamy mantle that overlies dense, sandy glacial till derived mainly from Precambrian granitic and metamorphic rocks. Slopes range from 3 to 15 percent.

Skerry soils are commonly adjacent to and form a drainage sequence with well drained Becket soils and somewhat poorly drained Adirondack soils. They are mapped in complex with Becket soils. Croghan soils are near Skerry soils on sandy deltaic and outwash terraces. Somewhat excessively drained Adams soils are on nearby outwash plains, terraces, and lake plains. Moderately deep Tunbridge soils and shallow Lyman soils are commonly near Skerry soils on bedrock-controlled uplands.

Typical pedon of Skerry fine sandy loam, in an area of Becket-Skerry complex, 3 to 8 percent slopes, very bouldery, in the town of Forestport, Oneida County, due north of Otter Lake, 0.75 mile due west of the intersection of Route 28 and Lake View Road, in a wooded area:

Oa—0 to 2 inches; black (10YR 2/1), highly decomposed plant material; a thin layer of mostly undecomposed leaves and twigs at the surface; weak fine and medium granular structure; very friable; many fine and common medium and coarse roots; strongly acid; abrupt smooth boundary.

A—2 to 6 inches; very dark brown (10YR 2/2) fine sandy loam; weak fine and medium granular structure; friable; many fine and common medium and coarse roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

E—6 to 9 inches; brown (7.5YR 4/2) fine sandy loam; weak fine and medium granular structure; friable; many fine and medium and common coarse roots; 5 percent rock fragments; very strongly acid; abrupt discontinuous boundary.

Bhs—9 to 13 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine and medium granular structure; very friable; many fine and medium and common coarse roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.

Bs—13 to 27 inches; reddish brown (5YR 4/4) sandy loam; common fine prominent strong brown (7.5YR 5/8) redoximorphic concentrations and few fine prominent grayish brown (10YR 5/2) redoximorphic depletions in the lower part of the horizon; weak fine and medium subangular blocky structure parting to weak fine and medium granular; 90 percent friable and 10 percent weakly cemented (ortstein); many fine and medium and common coarse roots; 10 percent rock fragments; very strongly acid; gradual smooth boundary.

Cd—27 to 72 inches; 50 percent light olive brown (2.5Y 5/4) loamy sand and 50 percent brown (10YR 5/3) gravelly fine sandy loam; common fine prominent strong brown (7.5YR 5/8) redoximorphic concentrations; single grain and loose in the loamy sand; massive and firm in the fine sandy loam; fabric of the horizon consisting of loose horizontal lenses of loamy sand as much as 2 inches thick occurring alternately with lenses of fine sandy loam; 20 percent rock fragments; very strongly acid.

The thickness of the solum ranges from 15 to 36 inches and commonly corresponds to the depth of densic material. The content of rock fragments ranges from 5 to 30 percent, by volume, in the solum and from 5 to 40 percent in the substratum. Unless the soils have been limed, reaction ranges from extremely acid through slightly acid in the solum and from very strongly acid through neutral in the substratum. The content of weakly cemented material (ortstein) ranges from 0 to 50 percent in the spodic horizon.

The O horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 through 4 and chroma of 0 through 4.

The A horizon is as much as 4 inches thick. It has hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction is fine sandy loam or sandy loam.

The E horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 1 or 2. The fine-earth fraction is fine sandy loam or sandy loam.

The Bhs horizon or Bh horizon, where present, has hue of 2.5YR through 10YR, value of 2 through 4, and chroma of 1 through 4. The fine-earth fraction is dominantly fine sandy loam but in some pedons is sandy loam.

The Bs horizon has hue of 2.5YR through 10YR, value of 2 through 6, and chroma of 3 through 8. The fine-earth fraction is fine sandy loam or sandy loam.

Some pedons have a BC horizon. This horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 2 through 6. The fine-earth fraction is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

Some pedons have an E´ horizon below the B horizon. The E´ horizon is as much as 2 inches thick. It has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 or 3. It has the same range in texture as the lower part of the B horizon, but it typically is coarser textured than the overlying horizon.

The Cd horizon has hue of 10YR through 5Y, value of 4 through 7, and chroma of 2 through 6. It consists of loamy layers and sandy lenses with a composite texture of loamy sand, loamy fine sand, fine sandy loam, or sandy loam. The lenses range from loamy fine sand through coarse sand and are $^{1}/_{8}$ inch to 2 inches thick. They make up more than 20 percent of the horizon. The horizon is massive or single grain in the lenses or has platelike divisions. Consistence generally is firm or very firm, but in some pedons individual lenses are friable through loose. The sandy structural plates and massive horizons are loamy sand, loamy fine sand, or the gravelly analogs of those textures. Some pedons have a friable C horizon above the Cd horizon. The C horizon is as much as 8 inches thick.

Torull Series

The Torull series consists of shallow, somewhat poorly drained or poorly drained soils on uplands at an elevation of more than 1,000 feet. These soils are dominantly poorly drained and formed in a thin mantle of glacial till, which is underlain by sandstone, siltstone, and shale bedrock. Slopes range from 0 to 3 percent.

Torull soils are commonly adjacent to moderately deep, somewhat poorly drained Gretor soils. Moderately deep, moderately well drained Ischua soils are on nearby glacial till uplands. Some narrow areas of rock outcrop are near Torull soils.

Typical pedon of Torull silt loam, in an area of Torull-Gretor complex, 1 to 6 percent slopes, in the town of Decatur, Otsego County, 3,000 feet east of the intersection of Fish and Game Road and Reservoir Road and 50 feet south of Reservoir Road, in an abandoned field; lat. 42°40´30´´ N. and long. 74°39´14´´ W.; USGS South Valley, New York, topographic quadrangle; NAD 1927:

Ap1—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; many fine and common medium roots; 1 percent rock fragments; moderately acid (limed); abrupt smooth boundary.

Ap2—5 to 7 inches; very dark gray (10YR 3/1) silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; many very fine and common fine vesicular pores; 5 percent rock fragments; moderately acid (limed); abrupt smooth boundary.

Bg—7 to 15 inches; grayish brown (2.5Y 5/2) silt loam; common fine and medium prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations and a few medium and coarse faint gray (10YR 5/1) redoximorphic depletions;

moderate fine subangular blocky structure; friable; few fine and medium roots; common fine vesicular pores; 10 percent rock fragments; moderately acid (limed); abrupt smooth boundary.

2R—15+ inches; grayish brown, massive sandstone bedrock.

The thickness of the solum (or the depth to bedrock) ranges from 10 to 20 inches. The content of rock fragments ranges from 0 to 15 percent, by volume, in the surface layer and from 0 to 35 percent throughout the rest of the profile. In unlimed areas reaction is very strongly acid or strongly acid. The pH in $CaCl_2$ is less than 5.0.

The Ap or A horizons have hue of 5YR through 10YR, value of 3 through 5, and chroma of 1 through 3. The fine-earth fraction is silt loam or loam. Structure is weak or moderate, fine through coarse granular. Consistence is very friable or friable.

Some pedons have an Eg horizon. This horizon has hue of 5YR through 10YR, value of 5 or 6, and chroma of 1 or 2. The fine-earth fraction is fine sandy loam or sandy loam. Structure is weak medium or coarse subangular blocky or thin through thick platy. Consistence is very friable or friable.

The B or Bg horizons have hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 2 or 3 and have redoximorphic features. The fine earth-fraction is fine sandy loam to silt loam. Structure is weak or moderate, fine through coarse subangular blocky or prismatic or is thin through thick platy. Consistence is friable or firm.

Some pedons have a thin C horizon, which has colors and textures similar to those of the B horizons.

The 2R layer consists of hard, grayish sandstone, siltstone, or shale. The upper part of the bedrock is fractured in some pedons.

Tughill Series

The Tughill series consists of very deep, very poorly drained soils on toeslopes, in depressions, and along drainageways on the Tug Hill Plateau in the northern part of the county and in the valleys of the Black River and the Mohawk River. These soils formed in glacial till. Slopes range from 0 to 3 percent.

Tughill soils are commonly adjacent to moderately well drained Pinckney and somewhat poorly drained Camroden soils on the higher landforms. In some areas they are near poorly drained Marcy soils, which are on the same part of the landform as the Tughill soils and have a dense layer in the subsoil. Runeberg soils are near Tughill soils in a few areas. They have a higher reaction than the Tughill soils. Wonsqueak soils are in nearby bogs and on landforms similar to those of the Tughill soils. They formed in organic deposits.

Typical pedon of Tughill mucky silt loam, stony, in the town of Steuben, Oneida County, 100 feet north of Pritchard Road and 0.2 mile west of the intersection of Route 12 and Pritchard Road:

Oa—0 to 8 inches; black (10YR 2/1) sapric material (muck); massive; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

A—8 to 12 inches; very dark gray (10YR 3/1) cobbly silt loam; weak medium granular structure; friable; many fine and medium roots; 15 percent rock fragments; strongly acid; abrupt wavy boundary.

Eg—12 to 16 inches; gray (10YR 5/1) cobbly silt loam; few fine faint grayish brown (10YR 5/2) redoximorphic depletions; massive; friable; common fine and very fine roots; 20 percent rock fragments; strongly acid; gradual wavy boundary.

Bg—16 to 30 inches; light brownish gray (10YR 6/2) very cobbly silt loam; common (20 percent) medium prominent brownish yellow (10YR 6/8) redoximorphic concentrations; weak medium subangular blocky structure; firm; 35 percent rock fragments; strongly acid; clear wavy boundary.

C—30 to 72 inches; gray (5Y 5/1) very cobbly silt loam; massive; firm; 40 percent rock fragments; moderately acid.

The thickness of the solum ranges from 18 to 40 inches. The depth to bedrock is more than 60 inches. Redoximorphic features consisting of iron depletions and concentrations and reduced matrices occur directly below the A horizon. The content of rock fragments, mainly stones, cobbles, and gravel, ranges from 3 to 35 percent, by volume, in the A and E horizons and from 35 to 60 percent in the B and C horizons. Reaction ranges from extremely acid through strongly acid in the O, A, and E horizons, from extremely acid through slightly acid in the B horizon, and from moderately acid through neutral in the C horizon.

The O horizon has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 or 2. It is hemic material (mucky peat) or sapric material (muck). It has granular structure or is massive.

The A or Ap horizon has hue of 7.5YR through 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. The fine-earth fraction generally is sandy loam, fine sandy loam, loam, or silt loam. In some pedons it has the mucky analogs of those textures.

Some pedons have a BA horizon. This horizon is as much as 7 inches thick. It has colors and textures similar to those of the A horizon.

The Eg horizon has hue of 10YR or 2.5Y or is neutral in hue. It has value of 5 or 6 and chroma of 0 through 2. It has no redoximorphic features or has few or common redoximorphic concentrations. The fine-earth fraction is sandy loam, fine sandy loam, loam, or silt loam.

The Bg horizon has hue of 5YR to 5Y or is neutral in hue. It has value of 3 through 6 and chroma of 0 through 2. It has 15 to 40 percent redoximorphic concentrations with chroma higher than that of the matrix. The fine-earth fraction is sandy loam, fine sandy loam, loam, or silt loam. Structure is weak or very weak subangular blocky or platy. Consistence is friable or firm.

The C horizon is similar to the Bg horizon in texture and color. It has no redoximorphic features or has few or common redoximorphic concentrations or depletions. The horizon is massive or has platelike divisions. Consistence is firm or very firm.

Tuller Series

The Tuller series consist of shallow, poorly drained or somewhat poorly drained soils on hilltops and the benches of side slopes on bedrock-controlled landforms. These soils are dominantly poorly drained and formed in glacial till derived from siltstone, sandstone, and shale. Slopes range from 0 to 3 percent.

Tuller soils are in a drainage sequence with well drained Arnot soils. They are near moderately deep, well drained Manlius soils. They are mapped in a complex with moderately deep, somewhat poorly drained Greene soils. In some parts of the county, very deep, moderately well drained Mardin soils and very deep, somewhat poorly drained Venango soils are on nearby till plains.

Typical pedon of Tuller channery silt loam, in a wooded area of Greene-Tuller complex, in the town of Sangerfield, Oneida County, 0.6 mile east of Bailey Lake on Gorton Lake Road and 0.5 mile east of Gorton Lake Road:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) channery silt loam, light brownish gray (10YR 6/2) dry; moderate medium and fine granular structure; friable; many fine and very fine and common medium roots; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—3 to 9 inches; brown (10YR 4/3) channery silt loam; common medium prominent red (2.5YR 4/8) redoximorphic concentrations and common medium faint grayish brown (10YR 5/2) redoximorphic depletions and faces of peds; moderate medium subangular blocky structure; friable; many very fine, common fine, and few medium roots; 15 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw2—9 to 11 inches; light olive brown (2.5Y 5/3) channery silt loam; common medium prominent yellowish red (5YR 5/8) redoximorphic concentrations and medium faint dark grayish brown (10YR 4/2) redoximorphic depletions and faces of peds; weak medium subangular blocky structure; firm; common very fine roots; 15 percent rock fragments; moderately acid; abrupt smooth boundary.

2R—11 inches; dark grayish brown (10YR 4/2), hard, massive, unfractured siltstone; very fine and fine roots along the surface of the rock; strongly acid.

The thickness of the solum (or the depth to bedrock) ranges from 10 to 20 inches. The content of rock fragments, which are dominantly flat, ranges from 15 to 35 percent, by volume, as a weighted average of the subsoil and substratum. Unless the soils have been limed, reaction ranges from very strongly acid through moderately acid throughout the solum.

Some pedons have an Ap horizon. This horizon has hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 2 or 3. The fine-earth fraction is loam or silt loam. Structure is weak or moderate, fine or medium granular. Consistence is very friable or friable. Many pedons in forested areas have an O horizon 1 to 3 inches thick and an A horizon 2 to 4 inches thick.

The Bw horizons have hue of 5YR through 5Y, value of 4 through 6, and chroma of 2 or 3. They have redoximorphic features, and chroma is 2 or less on faces of peds. The fine-earth fraction is silt loam, loam, or very fine sandy loam. Structure is weak or moderate, fine or medium subangular blocky or moderate medium prismatic or platy. Consistence is friable or firm.

Some pedons have a thin C horizon, which is massive or has platelike divisions.

The 2R layer is massive, hard sandstone, siltstone, or shale bedrock. In some pedons it is interbedded. It is reddish, olive, or gray.

Tunbridge Series

The Tunbridge series consists of moderately deep, well drained soils on bedrock-controlled till plains in the uplands. These soils formed in loamy glacial till derived mainly from granite or gneiss. The till is low in content of lime. Slopes range from 3 to 60 percent.

Tunbridge soils are commonly adjacent to shallow, somewhat excessively drained Lyman and very deep Becket soils, both of which are on the same landforms as the Tunbridge soils. Very deep, moderately well drained Skerry soils are on nearby landforms similar to those of the Tunbridge soils and in slightly concave depressional areas.

Typical pedon of Tunbridge fine sandy loam, in a wooded area of Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky, in the town of Forestport, Oneida County, 3 miles north of Woodgate on Route 28, about 1,400 feet east of Route 28, and 15 feet east of an old railroad bed:

Oa—0 to 3 inches; black (2.5Y 2.5/1), highly decomposed plant material; a thin layer of partially decomposed leaf litter on the surface; weak fine and medium granular structure; very friable; many fine, medium, and coarse roots; extremely acid; abrupt smooth boundary.

A—3 to 8 inches; very dark gray (5YR 3/1) fine sandy loam; moderate fine and medium granular structure; very friable; many fine, medium, and coarse roots; 5 percent rock fragments, including 2 percent fragments more than 3 inches in diameter; extremely acid; abrupt wavy boundary.

E—8 to 9 inches; gray (5YR 5/1) fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine and few medium roots; 5 percent rock fragments; extremely acid; abrupt irregular boundary.

Bhs—9 to 12 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine and few medium roots; 10 percent rock fragments, including 5 percent rock fragments more than 3 inches in diameter; very strongly acid; clear wavy boundary.

Bs1—12 to 14 inches; reddish brown (5YR 4/4) gravelly fine sandy loam; common medium distinct dark reddish brown (5YR 3/2) nodules and dark reddish brown (5YR 3/3) faces of peds; weak medium subangular blocky structure; firm; common fine and medium roots; 20 percent rock fragments, including 5 percent rock fragments more than 3 inches in diameter; strongly acid; clear wavy boundary.

Bs2—14 to 18 inches; yellowish red (5YR 4/6) gravelly fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 25 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; strongly acid; clear wavy boundary.

BC—18 to 30 inches; brown (7.5YR 5/4) gravelly fine sandy loam; weak fine and medium subangular blocky structure; very friable; few fine roots; 25 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; strongly acid; clear wavy boundary.

C—30 to 38 inches; brown (7.5YR 5/4) gravelly fine sandy loam; massive; very friable; few fine roots; 25 percent rock fragments, including 10 percent rock fragments more than 3 inches in diameter; strongly acid; abrupt smooth boundary.

2R—38 inches; folded granite, schist, and gneiss bedrock.

The thickness of the solum ranges from 14 to 38 inches. The depth to bedrock ranges from 20 to 40 inches. Reaction ranges from extremely acid through moderately acid in the solum and from strongly acid through slightly acid in the substratum. The content of rock fragments, mostly gravel, channers, and cobbles, ranges from 5 to 35 percent, by volume, in the solum and substratum. The thickness of the spodic horizon (Bhs, Bs, and Bh horizons, if present), ranges from 4 to 16 inches. The spodic horizon is weakly smeary or not smeary. The content of silt is typically less than 50 percent in the solum and substratum.

Some pedons have Oi, Oe, and/or Oa horizons over the A horizon. The combined thickness of the O horizons is 0 to 5 inches.

The A horizon has hue of 5YR through 10YR or is neutral in hue. It has value of 2 through 5 and chroma of 0 through 4. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam.

Some pedons have an Ap horizon. This horizon has hue of 5YR through 10YR and value and chroma of 2 through 4. The textures are similar to those of the A horizon.

The E horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 1 or 2. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is loamy fine sand or silt loam.

Some pedons have a BE horizon. This horizon has hue of 5YR through 10YR, value of 4 through 6, and chroma of 2 through 4. Its textures are similar to those of the E horizon.

Some pedons have a Bh horizon. Typically, this horizon has hue of 5YR through 10YR or is neutral in hue. It generally has value of 2 or 3 and chroma of 0 through 2. It may have higher value and chroma. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam.

The Bhs horizon has hue of 5YR through 10YR and value and chroma of 3 or less. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam. The horizon is less than 4 inches thick.

The Bs horizons have hue of 5YR through 2.5Y and value and chroma of 4 or more. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam.

The BC horizon has hue of 7.5YR through 2.5Y, value of 3 through 5, and chroma of 3 through 8. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam. The horizon is as much as 12 inches thick.

The C horizon, where present, has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is typically loam, very fine sandy loam, fine sandy loam, or sandy loam but in some pedons is silt loam.

The 2R layer is slightly weathered schist, gneiss, phyllite, or granite bedrock.

Udifluvents

Udifluvents consist of very deep alluvial soils that formed in material recently deposited by streams and rivers on flood plains. Typically, these soils are well drained, but they range from excessively drained through moderately well drained. They are subject to frequent flooding. They are in areas where the adjacent streams, through scouring, cutting, lateral erosion, and overflow, frequently shift the soil material from place to place. The deposits are generally stratified and range from sand and gravel to clay. Slopes range from 0 to 3 percent.

Udifluvents are mapped in a complex with poorly drained or very poorly drained Fluvaquents. They are slightly higher on the flood plains than Fluvaquents. Udifluvents are commonly near poorly drained Wayland soils. They are at elevations on the flood plains similar to those of Wayland soils. Well drained Wenonah, somewhat poorly drained Wakeville, moderately well drained Otego, and well drained Hamlin soils are adjacent to Udifluvents on the flood plains, in areas where soil properties are spatially less variable. Somewhat excessively drained Howard, Alton, and Chenango soils, moderately well drained Castile soils, and somewhat poorly drained Fredon soils formed in outwash on the adjacent terraces above the Udifluvents. Somewhat poorly drained Kendaia and poorly drained Lyons soils are near Udifluvents on glaciated uplands in the southern part of the county, and poorly drained Dannemora, Marcy, and Runeberg soils are near Udifluvents in the northern part of the county.

Idealized pedon of Udifluvents, in an area of Udifluvents-Fluvaquents complex, frequently flooded, from the town of Whitestown, Oneida County, along Oriskany Creek, 50 feet north of Judd Road and 600 feet southeast of the intersection of Old Judd and Lovell Roads:

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; very friable; many very fine and fine roots; 1 percent rock fragments; slightly acid; abrupt smooth boundary.

A2—4 to 12 inches; dark grayish brown (10YR 4/2) gravelly loam, light brownish gray (10YR 6/2) dry; weak fine and medium granular structure; friable; many very fine and fine roots; 15 percent rock fragments, including 2 percent fragments more than 3 inches in diameter; slightly acid; clear wavy boundary.

C—12 to 37 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; 5 percent rock fragments; slightly acid; gradual wavy boundary.

2C—37 to 72 inches; brown (10YR 4/3), stratified very gravelly silt loam, loam, and fine sandy loam; few fine distinct dark gray (10YR 4/1) redoximorphic depletions; massive; friable; 35 percent rock fragments, including 5 percent rock fragments more than 3 inches in diameter; neutral.

Udifluvents are highly variable, and thus an idealized pedon is described rather than a typical pedon. These soils show little or no evidence of profile development. The depth to bedrock is generally more than 60 inches, except for a few small areas where the stream has cut down to the bedrock valley floor and removed most of the alluvial deposits. The thickness of the solum ranges from 1 to 15 inches and corresponds to the thickness of the surface layer. Below the surface layer, the soils generally are stratified. The content of rock fragments, including pebbles and cobblestones, ranges from 0 to 80 percent, by volume. It is mainly less than 35 percent, except for some individual strata in areas along some streams. Reaction ranges from very strongly acid through neutral throughout the profile. The content of organic matter decreases irregularly with increasing depth.

Old drainage channels cut many areas of these soils. The mounds between the channels are typically sandy and gravelly. Sandbars occur along the larger streams. The soils are influenced by the kind of area through which the stream flows. In areas of glacial till, the soils commonly are medium textured or moderately fine textured and stones are common. Near lacustrine areas, the soils are medium textured through fine textured and generally have no rock fragments. Near areas of outwash, the soils commonly are coarse textured or moderately coarse textured and have a large amount of gravel.

The following paragraphs describe the general range in characteristics of the Udifluvents in this county.

The surface layer has hue of 5YR through 2.5Y or is neutral in hue. It has value of 2 through 5 and chroma of 0 through 4. The fine-earth fraction ranges from sand through silty clay loam.

The substratum has hue of 5YR to 2.5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction ranges from very coarse sand through silty clay loam, but it generally is sandy loam to silt loam. In some pedons cobbly to extremely gravelly subhorizons are common. Consistence is friable through loose. Redoximorphic features occur in some pedons, generally below a depth of 24 inches.

Udorthents

Udorthents consist of very deep, excessively drained through moderately well drained, loamy and sandy soils in areas that have been altered by filling and grading associated with landfills, highways, housing developments, industrial sites, and other nonfarm uses. These soils are mostly in excavated or filled areas on outwash terraces, till plains, lake plains, and flood plains where construction, land filling, or earth moving has occurred. The soils also are in areas of gravelly deposits, where the original soil material has been removed. They commonly are near areas of urban development and in some rural areas. Slopes are mainly 3 to 15 percent but range from 0 to 35 percent. The steeper slopes are on the sides of the landforms.

Udorthents are highly variable. In a typical profile, the surface layer is brown or grayish brown gravelly loam or loamy sand 4 to 8 inches thick. The layers below the surface layer, to a depth of 72 inches or more, range from dark yellowish brown or yellowish brown to light olive brown. The fine-earth fraction commonly is silt loam, loam, or sandy loam but ranges from very gravelly loamy sand to very gravelly silty clay. Some pedons have stratified sand and gravel in the substratum. In some areas, there is no topsoil and the substratum has numerous cobblestones.

These soils show little or no evidence of profile development. The solum ranges from 0 to 10 inches in thickness. The depth to bedrock is generally more than 60 inches. In a few small areas, however, the soils are only a few inches deep over bedrock. The content of rock fragments, mainly gravel and cobbles, ranges from 0 to 65 percent, by volume. Reaction generally ranges from very strongly acid in the solum through slightly alkaline in the substratum. In areas of fill deposits, the thickness of the fill material over the original soil generally is more than 20 inches.

The surface layer generally has hue of 7.5YR through 5Y, value of 2 through 5, and chroma of 1 through 4. The fine-earth fraction is dominantly loam but ranges from sand through silt loam.

The substratum has hue of 5YR through 5Y and value and chroma of 2 through 6. The fine-earth fraction is dominantly loam but ranges from sand through silt loam. The substratum generally is massive. Consistence generally is friable but ranges from loose through very firm, depending on the degree of compaction and the texture of the soil material. Redoximorphic features occur in some pedons. In some pedons the substratum has no rock fragments, and in others it is gravelly through extremely gravelly. In some pedons it is thin and overlies layers of garbage, refuse, or construction debris.

Unadilla Series

The Unadilla series consists of very deep, well drained soils on terraces and glacial lake plains. These soils formed in water-deposited silts and very fine sands. Slopes range from 0 to 15 percent.

Unadilla soils are commonly adjacent to moderately well drained Scio soils, which are in the slightly lower or more concave areas on the same landforms as the Unadilla soils. Somewhat poorly drained Wakeville soils are in the lower nearby areas that are subject to flooding. Hamlin soils and moderately well drained Otego soils also are on nearby flood plains.

Typical pedon of Unadilla silt loam, 3 to 8 percent slopes, in the city of Rome, Oneida County, 500 feet west of Gore Road and 100 feet south of Route 69:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable, nonsticky, nonplastic; common fine, medium, and coarse roots; 1 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bw1—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; common fine prominent brownish yellow (10YR 6/8) root stains; moderate medium subangular blocky structure; friable, nonsticky, nonplastic; common fine, medium, and coarse roots; very strongly acid; clear smooth boundary.

Bw2—12 to 21 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; common fine and few medium roots; very strongly acid; clear smooth boundary.

C—21 to 72 inches; yellowish brown (10YR 5/4) silt loam; very weak thin and medium platy structure; firm, nonsticky, nonplastic; strongly acid.

The thickness of the solum ranges from 20 to 50 inches. The depth to bedrock is more than 60 inches. The depth to contrasting material is more than 40 inches. The content of rock fragments ranges from 0 to 5 percent, by volume, in the solum and from 0 to 60 percent in the substratum. Some pedons have redoximorphic features below a depth of 24 inches.

The Ap horizon has hue of 5YR through 2.5Y, value of 3 through 5, and chroma of 2 through 4. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate granular or blocky. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

The Bw horizons have hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 4 through 8. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate subangular blocky or prismatic, or the horizon is massive. Consistence is very friable through firm. Reaction ranges from very strongly acid through moderately acid.

The C or 2C horizon, where present, has hue of 7.5YR through 5Y, value of 4 or 5, and chroma of 2 through 6. The fine-earth fraction is very fine sandy loam, silt loam, or loamy very fine sand to a depth of 40 inches. Below a depth of 40 inches, the texture ranges from silt loam to very gravelly sand. The horizon is massive or single grained or has weak or moderate platelike divisions. Consistence is loose through firm. Reaction ranges from strongly acid through slightly alkaline.

Venango Series

The Venango series consists of very deep, somewhat poorly drained soils on glaciated uplands. These soils formed in firm glacial till derived mainly from sandstone and siltstone and from small amounts of limestone. The subsoil has a dense fragipan at a depth of 14 to 28 inches. Slopes range from 2 to 15 percent.

Venango soils are commonly adjacent to and form a drainage sequence with moderately well drained Mardin soils and poorly drained Chippewa soils. Well drained Chadakoin soils are near Venango soils. They are on landscapes similar to those of the Venango soils and do not have a fragipan in the subsoil. Moderately deep, well drained Manlius soils, moderately deep, somewhat poorly drained Greene soils, shallow, well drained Arnot soils, and shallow, poorly drained Tuller soils are on nearby bedrock-controlled landforms.

Typical pedon of Venango silt loam, 2 to 8 percent slopes, in the town of Sangerfield, Oneida County, 2.2 miles south of New York Route 20 on Beaver Creek Road and 100 yards east of Beaver Creek Road:

Ap1—0 to 5 inches; dark brown (10YR 3/3) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and very fine, common medium, and few coarse roots; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Ap2—5 to 11 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure parting to moderate fine and medium granular; friable; many fine and very fine, common medium, and few coarse roots; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw—11 to 23 inches; brown (10YR 4/3) loam; common medium prominent strong brown (7.5YR 5/6) redoximorphic concentrations and few fine faint light brownish gray (10YR 6/2) redoximorphic depletions; dark brownish gray (10YR 4/2) faces of peds; weak medium subangular blocky structure parting to weak fine granular; friable; many fine and few medium and coarse roots; 10 percent rock fragments; moderately acid; clear smooth boundary.

E—23 to 27 inches; grayish brown (2.5Y 5/2) loam; common fine prominent yellowish brown (10YR 5/8) redoximorphic concentrations; moderate medium platy structure parting to moderate fine subangular blocky; friable; common fine and very fine and few medium roots; 12 percent rock fragments; moderately acid; clear smooth boundary.

Btx—27 to 39 inches; brown (10YR 5/3) channery silt loam; common fine and medium prominent strong brown (7.5YR 5/6) redoximorphic concentrations; moderate very coarse prismatic structure parting to moderate medium and coarse subangular blocky; very firm and brittle; common distinct gray (10YR 6/1) clay films on faces of peds; grayish brown (10YR 5/2) prism face exteriors, yellowish brown (10YR 5/6 and 5/8) adjacent rinds, prism faces 6 to 18 inches apart with rinds 1/2 inch to 1 1/2 inches wide; few fine roots on the prism faces; 20 percent rock fragments; moderately acid; gradual wavy boundary.

CB—39 to 72 inches; dark grayish brown (2.5Y 4/2) gravelly silt loam; common fine and medium distinct and prominent yellowish brown (10YR 5/4 and 5/8), common medium distinct light olive brown (2.5Y 5/4), and few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations; massive; firm; 20

percent rock fragments, including 5 percent fragments more than 3 inches in diameter; neutral.

The thickness of the solum ranges from 36 to 72 inches. The depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 14 to 28 inches. The depth to carbonates varies within short distances, ranging from 36 to more than 80 inches. The particle-size control section averages 18 to 30 percent clay. The calcium carbonate equivalent ranges from 2 to 10 percent.

The Ap horizons have hue of 10YR or 2.5Y, value of 3 or 4 (6 or more dry), and chroma of 2 or 3. Pedons in undisturbed pedons have an A horizon, which is 1 to 3 inches thick. This horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3. The fine-earth fraction is silt loam or loam. Structure is weak or moderate, fine through coarse granular. The content of rock fragments ranges from 0 to 25 percent, by volume. Reaction generally ranges from extremely acid through moderately acid. In areas that have been limed, it ranges to neutral.

The Bw horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 2 through 8. The fine-earth fraction is loam, silt loam, clay loam, or silty clay loam. Structure is weak or moderate, fine through coarse, angular or subangular blocky. The content of rock fragments ranges from 2 to 25 percent, by volume. Reaction ranges from extremely acid through moderately acid.

The E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 through 4. The fine-earth fraction is silt loam or loam. Structure is weak fine or medium subangular blocky or platy. The content of rock fragments ranges from 0 to 25 percent, by volume. Reaction ranges from extremely acid through moderately acid.

The Btx horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is loam, silt loam, or silty clay loam. Structure is weak through strong very coarse prismatic parting to weak or moderate fine or medium subangular blocky or weak platy. The content of rock fragments ranges from 2 to 25 percent, by volume. Reaction ranges from very strongly acid through slightly acid in the upper part of the horizon and from strongly acid through neutral in the lower part.

Some pedons have a BC horizon. This horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 6. The fine-earth fraction is loam or silt loam. Structure is weak coarse or very coarse subangular blocky. The content of rock fragments ranges from 2 to 25 percent, by volume. Reaction ranges from strongly acid through neutral.

The C or CB horizon, where present, has hue of 10YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction is loam or silt loam. The content of rock fragments ranges from 2 to 25 percent, by volume. Reaction ranges from neutral through moderately alkaline.

Wakeville Series

The Wakeville series consists of very deep, somewhat poorly drained soils on flood plains that are subject to rare or occasional flooding. These soils formed in recently deposited silty alluvium. Slopes range from 0 to 3 percent.

Wakeville soils are adjacent to or form a drainage sequence with poorly drained Wayland soils in the lower areas on flood plains and in stream meander channels. Well drained Hamlin soils and moderately well drained Otego soils are commonly adjacent to Wakeville soils on the slightly higher flood plains. Wakeville soils are near well drained Wenonah soils on some flood plains. Udifluvents and Fluvaquents are in nearby areas on some flood plains where flooding is more frequent and the deposits vary more in drainage and texture. Well drained Unadilla soils and moderately well drained Scio soils are on the higher adjacent lacustrine plains or terraces. Somewhat excessively drained Chenango soils are on nearby outwash terraces.

Typical pedon of Wakeville silt loam, in the town of Whitestown, Oneida County, one-eighth of a mile west of Mohawk Street and one-eighth of a mile south of the Erie Barge Canal:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; friable; many very fine and fine roots; 1 percent rock fragments; neutral; abrupt smooth boundary.

Bw—10 to 15 inches; brown (10YR 4/3) silt loam; few fine distinct yellowish brown (10YR 5/6) redoximorphic concentrations; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; 3 percent rock fragments; neutral; clear smooth boundary.

Bg—15 to 35 inches; dark grayish brown (10YR 4/2) silt loam; few fine prominent yellowish brown (10YR 5/6) redoximorphic concentrations and common medium faint grayish brown (10YR 5/2) redoximorphic depletions; weak fine and medium subangular blocky structure; friable; few fine and very fine roots; 3 percent rock fragments; neutral; clear smooth boundary.

Cg—35 to 72 inches; gray (10YR 5/1) silt loam; common medium prominent yellowish brown (10YR 5/8 and 5/6) redoximorphic concentrations; massive; friable; 3 percent rock fragments; neutral.

The thickness of the solum ranges from 24 to 45 inches. The depth to bedrock is more than 60 inches. The content of rock fragments generally is less than 5 percent, by volume, in the surface layer and subsoil, is as much as 20 percent in the part of the substratum above a depth of 40 inches, and is as much as 45 percent below a depth of 40 inches. Reaction ranges from moderately acid through neutral to a depth of 40 inches and from slightly acid through moderately alkaline below that depth.

The Ap or A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. The fine-earth fraction is silt loam or very fine sandy loam. The A horizon is 2 to 5 inches thick.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 3 through 6. The fine-earth fraction is very fine sandy loam or silt loam. Structure is fine or medium subangular blocky or granular.

The Bg horizon has hue of 10YR or 2.5Y, value of 3 through 6, and chroma of 1 or 2. The fine-earth fraction is very fine sandy loam or silt loam. Structure is subangular blocky or granular.

The Cg or C horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 through 4. The fine-earth fraction is silt loam or very fine sandy loam above a depth of 40 inches and ranges to fine sandy loam or loamy sand below a depth of 40 inches. The horizon is massive or has platelike divisions. Consistence is very friable through firm.

Wallington Series

The Wallington series consists of very deep, somewhat poorly drained soils on lake plains and silt-mantled uplands. These soils formed in silty lacustrine deposits. A dense fragipan is at a depth of 12 to 24 inches. Slopes range from 0 to 8 percent.

Wallington soils are commonly adjacent to well drained Unadilla and moderately well drained Scio soils in the slightly higher landscape positions. They are near Rhinebeck soils, which are in landscape positions similar to those of the Wallington soils and have a higher content of clay than the Wallington soils. Rarely flooded Wakeville soils are nearby. None of the adjacent or nearby soils have a fragipan.

Typical pedon of Wallington very fine sandy loam, 0 to 3 percent slopes, in the city of Rome, Oneida County, 1,122 feet north of the intersection of Route 69 and Link Road, then 200 feet east of Link Road (Coonrod area):

Ap—0 to 9 inches; dark brown (7.5YR 3/2) very fine sandy loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many fine and very fine roots; moderately acid; abrupt smooth boundary.

Bw1—9 to 12 inches; brown (7.5YR 5/4) very fine sandy loam; common medium prominent yellowish red (5YR 5/8) redoximorphic concentrations and pinkish white (5YR 8/2) bleached sand grains; weak medium subangular blocky structure; friable; common fine and very fine roots; moderately acid; clear smooth boundary.

Bw2—12 to 15 inches; yellowish brown (10YR 5/4) very fine sandy loam; common medium prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; few fine roots; moderately acid; abrupt wavy boundary.

Bx1—15 to 24 inches; yellowish brown (10YR 5/4) silt loam; common medium distinct brownish yellow (10YR 6/6) redoximorphic concentrations; weak very coarse prismatic structure parting to weak medium subangular blocky; distinct light brownish gray (10YR 6/2) faces of peds with brownish yellow (10YR 6/8) rinds adjacent to faces of peds; firm, some brittleness; few fine roots along faces of peds; neutral; clear smooth boundary.

Bx2—24 to 35 inches; 40 percent light brownish gray (10YR 6/2), 30 percent yellowish brown (10YR 5/4), and 30 percent brownish yellow (10YR 6/6 and 6/8), silt loam; weak very coarse prismatic structure parting to weak thin platy; firm, brittle; few fine roots along faces of peds; few clay flows in pores; slightly acid; clear smooth boundary.

C—35 to 80 inches; yellowish brown (10YR 5/4) silt loam with lenses of fine sandy loam; common medium distinct grayish brown (10YR 5/2) redoximorphic depletions and prominent yellowish brown (10YR 5/8) redoximorphic concentrations; weak thin platelike divisions and varves; firm; few fine roots; slightly acid.

The thickness of the solum ranges from 30 to 60 inches. Depth to the top of the fragipan ranges from 12 to 24 inches. The depth to bedrock is more than 60 inches. The soils generally have no rock fragments, but the content of gravel can be as much as 3 percent, by volume, in the solum and as much as 5 percent in the substratum.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate granular. Consistence is friable or very friable. Reaction ranges from very strongly through moderately acid, unless the soils have been limed.

Some pedons have an E horizon. This horizon has hue of 7.5YR through 5Y, value of 5 or 6, and chroma of 1 through 3. The fine-earth fraction ranges from silt loam through loamy very fine sand and very fine sandy loam. The horizon is massive or has thin platy or weak subangular blocky structure. Consistence is friable or firm. Reaction ranges from very strongly through moderately acid, unless the soils have been limed.

The Bw horizons have hue of 5YR through 5Y, value of 3 through 6, and chroma of 3 or 4. They have redoximorphic depletions and faces of peds with chroma of 1 or 2. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate, fine through coarse subangular blocky. Consistence is friable or firm. Reaction ranges from very strongly acid through slightly acid.

The Bx horizons have hue of 5YR through 5Y, value of 4 through 6, and chroma of 2 through 4. The fine-earth fraction is silt loam or very fine sandy loam. Structure is weak or moderate very coarse prismatic parting to weak platy, or the material within prisms is massive. Consistence is firm or very firm. Reaction ranges from very strongly acid through neutral.

The C horizon has colors similar to those of the Bx horizons. The fine-earth fraction ranges from loamy very fine sand through silt loam. Consistence is friable or firm. Reaction ranges from moderately acid through neutral.

Wallkill Series

The Wallkill series consists of very deep, very poorly drained, nearly level soils on flood plains and the around margins of organic soils adjacent to uplands. The Wallkill soils formed in alluvium over organic material. Slopes range from 0 to 3 percent.

Wallkill soils are commonly adjacent to Wayland, Palms, and Carlisle soils. Wayland soils are in positions on flood plains similar to those of the Wallkill soils and do not have significant amounts of organic material below a depth of 8 inches. Palms and Carlisle soils are mainly in bogs and have organic deposits that extend from the surface downward without an alluvial mantle.

Typical pedon of Wallkill silt loam, in the town of Whitestown, Oneida County, 0.25 mile west of River Street and 0.5 mile south of the Mohawk River, in a cultivated field:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam; weak fine granular structure; friable; many fine roots; neutral; clear smooth boundary.

Bg—8 to 12 inches; very dark gray (10YR 3/1) silt loam; few fine prominent yellowish red (5YR 4/6 and 5/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; common fine roots; neutral; clear wavy boundary.

Cg—12 to 22 inches; gray (10YR 5/1) silty clay loam; few fine faint and prominent yellowish brown (10YR 5/6) redoximorphic concentrations; massive; firm; neutral; abrupt wavy boundary.

2Oa1—22 to 34 inches; dark reddish brown (5YR 3/2) sapric material (muck), dark reddish brown (5YR 2.5/2) rubbed and pressed; 10 percent fibers, 3 percent fibers rubbed and pressed; massive; friable; neutral; gradual wavy boundary.

2Oa2—34 to 56 inches; dark reddish brown (5YR 2.5/2) sapric material (muck), dark reddish brown (5YR 2.5/2) rubbed; 5 percent fibers, 0 percent fibers rubbed and pressed; massive; friable; neutral; abrupt wavy boundary.

3C—56 to 72 inches; gray (N 5/0) sand and gravel; single grain; loose; neutral.

The mineral material is 16 to 40 inches deep over the organic soil material. The depth to bedrock is more than 60 inches. The soils generally have no rock fragments, but in some pedons the mineral layers have as much as 20 percent gravel.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 through 4, and chroma of 1 or 2. The fine-earth fraction is silt loam, silty clay loam, loam, or fine sandy loam. Structure is weak or moderate, fine through coarse granular. Consistence is friable or very friable. Reaction ranges from strongly acid through slightly alkaline.

The Bg horizon has hue of 10YR through 5Y, value of 3 through 5, and chroma of 1 or 2. The fine-earth fraction is dominantly silt loam or loam, but some pedons have subhorizons of fine sandy loam or silty clay loam. Structure is weak subangular blocky or prismatic. Consistence is friable or firm. Reaction ranges from strongly acid through slightly alkaline.

The Cg horizon has the same range in color and texture as the Bg horizon. Reaction ranges from strongly acid through slightly alkaline. Some pedons have a buried A horizon above the organic layers.

The 2O horizons have hue of 5YR through 2.5Y or are neutral in hue. They have value of 2 or 3 and chroma of 0 through 2. The horizons consist of sapric material (muck) or hemic material (mucky peat) and include woody or herbaceous plant material, or both. Reaction ranges from strongly acid through slightly alkaline.

The 3C horizon, where present, consists mainly of marl or coprogenous earth, but in some pedons it has clayey, silty, or sandy material. Reaction ranges from strongly acid through moderately alkaline, depending on the type of deposit in the substratum.

Wareham Series

The Wareham series consists of very deep, somewhat poorly drained or poorly drained soils in low-lying areas on outwash plains and deltas, mostly in the central and western parts of the county. These soils are dominantly somewhat poorly drained and formed in sandy outwash and water-sorted deposits. Slopes range from 0 to 3 percent.

Wareham soils are commonly adjacent to and form a drainage sequence with excessively drained Windsor and moderately well drained Covert soils in the higher landform positions. They are near poorly drained Jebavy soils, which have a cemented ortstein layer in the subsoil and are on the Oneida Lake Plain, in landscape positions similar to those of the Wareham soils. Very poorly drained Adrian, Palms, and Carlisle soils are in nearby bogs and depressions. They have organic deposits that are more than 16 inches thick.

Typical pedon of Wareham loamy fine sand, in the town of Verona, Oneida County, 200 feet east of Sterling Road and one-eighth of a mile south of Poppleton Road, in a wooded area:

Oe—0 to 2 inches; black (10YR 2/1), moderately decomposed twigs, needles, and roots; many fine, medium, and coarse roots; very strongly acid; abrupt smooth boundary.

A—2 to 9 inches; very dark gray (10YR 3/1) loamy fine sand, grayish brown (10YR 5/2) dry; weak fine and medium granular structure; very friable; many fine, medium, and coarse roots; strongly acid; abrupt smooth boundary.

Bw—9 to 13 inches; dark yellowish brown (10YR 4/4) loamy fine sand; common medium prominent yellowish red (5YR 5/6) redoximorphic concentrations; weak fine and medium subangular blocky structure; very friable; few fine and medium roots; strongly acid; gradual smooth boundary.

Bg—13 to 28 inches; brown (7.5YR 5/2) loamy fine sand; few fine prominent yellowish red (5YR 5/6) and many medium distinct yellowish brown (10YR 5/4) redoximorphic concentrations; weak fine and medium subangular blocky structure; very friable; very strongly acid; clear smooth boundary.

C—28 to 72 inches; grayish brown (2.5Y 5/2) loamy sand; lenses of coarse sand as much as 2 inches thick occurring sporadically at depth a depth of more then 36 inches; many medium prominent light olive brown (2.5Y 5/6) redoximorphic concentrations; single grain; loose; very strongly acid.

The thickness of the solum ranges from 6 to 30 inches. The content of rock fragments, mostly gravel, ranges from 0 to 15 percent, by volume, to a depth of 36 inches. Below a depth of 36 inches, the content of gravel ranges from 0 to 60 percent, by volume, and the content of cobbles ranges from 0 to 3 percent. Within a depth of 20 inches, chroma is 2 or less where hue is 10YR or redder or chroma is 3 or less where hue is 2.5Y or 5Y. Reaction ranges from extremely acid through strongly acid throughout the profile, unless the soils have been limed.

The A or Ap horizon has hue of 10YR or 2.5Y or is neutral in hue. It has value of 2 or 3 (5 or less dry) and chroma of 0 through 2. The fine-earth fraction is sand, loamy fine sand, or loamy sand. Structure is weak fine or medium granular, or the horizon is single grain. Consistence is very friable or loose.

Some pedons have an E horizon. This horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. The fine-earth fraction is sand or loamy sand.

The Bw and Bg horizons have hue of 7.5YR through 2.5Y, value of 4 though 6, and chroma of 1 through 4. The fine-earth fraction is loamy fine sand, loamy sand, loamy coarse sand, fine sand, or sand. Structure is weak fine or medium granular or subangular blocky, or the horizon is single grain. Consistence is very friable or loose.

The C horizon is neutral in hue or has hue of 10YR through 5Y. It has value of 4 through 6 and chroma of 0 through 3. The fine-earth fraction generally ranges from loamy fine sand through coarse sand. Some pedons have strata of sand and gravel below a depth of 40 inches, and some have lenses or bodies of fine sandy loam. The horizon is massive or single grain in the upper part and is single grain in the lower part. Consistence is very friable or loose.

Wayland Series

The Wayland series consists of very deep, poorly drained or very poorly drained soils on flood plains. These soils are dominantly poorly drained and formed in recently deposited silty alluvium. Slopes range from 0 to 3 percent.

Wayland soils are adjacent to and form a drainage sequence with well drained Hamlin soils, moderately well drained Otego soils, and somewhat poorly drained Wakeville soils. They are on the same landform as those soils. Wayland soils are near well drained Wenonah and very poorly drained Wallkill soils on some flood plains. Udifluvents and Fluvaquents are on some nearby flood plains, in areas where flooding is more frequent and drainage and texture are more variable. Halsey soils, which formed in gravelly deposits, are near Wayland soils. They are in landform positions similar to those of the Wayland soils and are subject to rare flooding.

Typical pedon of Wayland silt loam, in the town of Sangerfield, Oneida County, 150 feet south of Loomis Road and 300 feet east of a bridge over Nine Mile Creek:

A—0 to 9 inches; very dark gray (2.5Y 3/1) silt loam; common fine and medium prominent red (2.5YR 4/8) redoximorphic concentrations; moderate medium subangular blocky structure; friable; many fine and very fine roots; neutral; clear smooth boundary.

Bg—9 to 28 inches; very dark gray (7.5YR 3/1) silt loam; common medium and coarse prominent red (2.5YR 4/8) redoximorphic concentrations; weak medium subangular blocky structure; friable; few fine and very fine roots in the top 5 inches of the horizon; neutral; clear smooth boundary.

C1—28 to 45 inches; dark gray (N 4/0) silt loam; massive; firm; slightly effervescent; slightly alkaline; clear smooth boundary.

C2—45 to 72 inches; dark gray (5Y 4/1) silty clay loam; massive; firm; slightly effervescent; moderately alkaline.

The depth of the silty deposits over stratified material ranges from 36 inches to more than 60 inches. The depth to bedrock is more than 60 inches. The depth to carbonates commonly ranges from 24 to 60 inches. Rock fragments commonly do not occur in these soils, but in some pedons the content of these fragments, mostly gravel and cobbles, is as much as 5 percent, by volume, within a depth of 36 inches and ranges from 0 to 30 percent below that depth.

The A or Ap horizon has hue of 10YR or 2.5Y or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. The fine-earth fraction is fine sandy loam, silt loam, or silty clay loam. Structure is moderate or strong, fine through coarse, granular or subangular blocky. Reaction ranges from strongly acid through neutral.

In some pedons the Bg horizon is as much as 24 inches thick. This horizon replaces the upper part of the Cg horizon in some pedons. It has hue of 7.5YR through 5Y or is neutral in hue. It has value of 3 through 6 and chroma of 0 through 2. The fine-earth fraction is silty clay loam or silt loam. Structure is weak or moderate, fine or medium subangular blocky or is moderate coarse prismatic. Reaction ranges from strongly acid through neutral.

The C horizons have hue of 7.5YR through 5Y, are neutral in hue, or have gleyed hues, including 5BG, 5GY, and 5G. They have value of 3 through 6 and chroma of 0 through 2. The fine-earth fraction is silty clay loam or silt loam. Structure is platy, or the horizon is massive. Consistence is friable or firm. Reaction ranges from strongly acid through moderately alkaline.

Some pedons have a 2C horizon. This horizon has the same range in color as the C horizon. The fine-earth fraction ranges from fine sandy loam through silty clay loam.

Wenonah Series

The Wenonah series consists of very deep, well drained, loamy soils on flood plains that are subject to occasional flooding. These soils formed in alluvium derived from sandstone, siltstone, and shale. The alluvium is low in content of lime. Slopes range from 0 to 3 percent.

Wenonah soils commonly are adjacent to and form a drainage sequence with moderately well drained Otego soils. Somewhat poorly drained Wakeville soils and poorly drained Wayland soils are on the lower flood plains and in stream meander channels. In a few areas Wenonah soils are near well drained Hamlin soils, which have a higher reaction than the Wenonah soils and are on the same landscape as the Wenonah soils. Well drained Unadilla soils and moderately well drained Scio soils are on the higher adjacent lacustrine or old alluvial terraces. Somewhat excessively drained or well drained Chenango soils are on nearby outwash terraces.

Typical pedon of Wenonah loam, in the town of Vienna, Oneida County, 45 feet south of Route 49 and one-third of a mile west of the Route 49 bridge over Fish Creek:

Ap—0 to 8 inches; dark brown (10YR 3/3) loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common fine and very fine and few medium roots; slightly acid (limed); abrupt smooth boundary.

Bw1—8 to 17 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; common fine and very fine roots; neutral (limed); clear smooth boundary.

Bw2—17 to 35 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common fine and very fine roots; slightly acid (limed); clear smooth boundary.

C1—35 to 45 inches; yellowish brown (10YR 5/4) very fine sandy loam; massive; firm in place; neutral; clear smooth boundary.

2C2—45 to 55 inches; yellowish brown (10YR 5/4) fine sand; single grain; loose; slightly acid; clear smooth boundary.

2C3—55 to 72 inches; yellowish brown (10YR 5/4) gravelly loamy sand; single grain; loose; 20 percent rock fragments; slightly acid; clear smooth boundary.

The thickness of the solum ranges from 16 to 45 inches. The depth to bedrock is more than 60 inches. The content of rock fragments, mainly gravel, ranges from 0 to 15 percent, by volume, in the solum and from 0 to 50 percent in the substratum. Reaction ranges from very strongly acid through moderately acid in the solum, unless the soils have been limed. It ranges from very strongly acid through neutral in the substratum.

The Ap horizon has hue of 7.5YR through 2.5Y, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction is dominantly loam but ranges from silt loam through sandy loam. Structure is weak or moderate granular or subangular blocky. Consistence is friable or very friable.

The Bw horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 3 through 6. The fine-earth fraction is silt loam, loam, very fine sandy loam, fine sandy loam, or loamy very fine sand. Structure is weak or moderate subangular blocky or granular. Consistence is friable or very friable.

Some pedons have a BC horizon. This horizon has textures similar to those of the Bw horizons, but in some pedons it ranges to fine sand. The horizon is massive or single grain. Consistence is friable through loose.

The C and 2C horizons have hue of 7.5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 5. The fine-earth fraction ranges from loam through loamy sand or fine sand, and the horizons are stratified in some pedons. Redoximorphic features are below a depth of 40 inches in some pedons. The horizons are massive or single grain. Consistence is friable through loose.

Westbury Series

The Westbury series consists of very deep, somewhat poorly drained soils on footslopes, on the lower side slopes, and in depressional areas on glaciated uplands on the Tug Hill Plateau. These soils formed in firm till derived from acid sandstone, siltstone, and shale. The subsoil has a fragipan at a depth of 10 to 24 inches. Slopes range from 0 to 8 percent.

Westbury soils are commonly adjacent to and form a drainage sequence with well drained Worth and moderately well drained Empeyville soils on the slightly higher parts of the landscape. Poorly drained Dannemora and very poorly drained Tughill soils are adjacent to Westbury soils in the slightly lower landscape positions. Very poorly drained Wonsqueak soils are in nearby bogs and depressions. They have organic deposits that are between 16 and 51 inches thick. Camroden soils are near Westbury soils to the east of the East Branch of Fish Creek.

Typical pedon of Westbury silt loam, 3 to 8 percent slopes, stony, in the town of Annsville, Oneida County, about 0.3 mile west of the intersection of Casbaker Road and Gossner Road, 500 feet north of the intersection of Casbaker Road and a truck trail, and 75 feet east of the truck trail; lat. 43°25´08´´ N. and long. 75°35´38´´ W.; Point Rock USGS quadrangle (WGS84):

Oi—0 to 1 inch; slightly decomposed leaves and twigs; abrupt smooth boundary.

Oa—1 to 3 inches; black (7.5YR 2.5/1), highly decomposed organic material derived from leaves, twigs, and roots; moderate medium subangular blocky structure; very friable; many fine and medium and common coarse roots; extremely acid; abrupt smooth boundary.

A—3 to 8 inches; very dark brown (7.5YR 2.5/2) silt loam; weak fine and medium granular structure; friable; common medium and few fine and coarse roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bs—8 to 18 inches; dark yellowish brown (10YR 3/4) very fine sandy loam; common medium distinct yellowish brown (10YR 5/6) redoximorphic concentrations and few distinct medium and fine grayish brown (2.5Y 5/2) redoximorphic depletions; weak fine granular structure; friable; few fine and medium roots; 10 percent rock fragments; very strongly acid; clear wavy boundary.

E—18 to 20 inches; brown (7.5YR 5/3) fine sandy loam; common medium prominent yellowish brown (10YR 5/6) redoximorphic concentrations; weak medium platy structure; friable; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bx—20 to 40 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak very coarse prismatic structure with weak thick platy structure between prisms; firm and brittle; few fine vesicular pores; 20 percent rock fragments; strongly acid; clear wavy boundary.

C—40 to 72 inches; yellowish brown (10YR 5/4) gravelly very fine sandy loam; massive; friable; common fine vesicular and few fine tubular pores; 20 percent rock fragments; moderately acid.

The thickness of the solum ranges from 40 to 60 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 10 to 24 inches. The content of rock fragments ranges from 5 to 35 percent, by volume, above the fragipan and from 15 to 60 percent in the fragipan and in the substratum.

Pedons in undisturbed areas have an O horizon, which is as much as 6 inches thick.

Some pedons have a Bh horizon, which is as much as 3 inches thick. This horizon is sandy loam through silt loam and has faint or distinct redoximorphic features. Reaction ranges from extremely acid through moderately acid.

The A or Ap horizon, where present, has hue of 7.5YR through 2.5Y, value of 2 through 4, and chroma of 1 or 2. The fine-earth fraction ranges from silt loam through sandy loam. Structure is weak or moderate granular. Consistence is very friable or friable. Reaction ranges from extremely acid through moderately acid.

The Bs horizon has hue of 5YR through 2.5Y, value of 3 through 6, and chroma of 4 through 8. The fine-earth fraction ranges from silt loam through sandy loam. Structure is weak granular, platy, or subangular blocky. Consistence is very friable or friable. Reaction ranges from extremely acid through moderately acid. Some pedons have a thin Bhs horizon.

The E horizon has hue of 7.5YR through 2.5Y, value of 5 through 7, and chroma of 1 through 4. The fine-earth fraction ranges from loamy sand through loam. Structure is weak thin or medium platy, or the horizon is massive. Consistence is friable or firm. Reaction ranges from extremely acid through moderately acid.

The Bx horizon has hue of 5YR through 2.5Y, value of 4 through 6, and chroma of 1 through 4. The fine-earth fraction is sandy loam, fine sandy loam, very fine sandy loam, or loam. Structure is very coarse prismatic parting to platy, or the horizon is massive within prisms. Consistence is firm or very firm. Reaction ranges from very strongly acid through moderately acid.

The C horizon is similar to the Bx horizon in color and texture. It is massive or has platelike divisions. Consistence is friable. Some pedons have a C or Cd that is firm or very firm. Reaction ranges from very strongly acid through moderately acid.

Windsor Series

The Windsor series consists of very deep, excessively drained soils on terraces and terrace escarpments. These soils formed in sandy glacial outwash derived principally from granite and sandstone. The outwash has been worked by the wind in some areas. Slopes range from 0 to 55 percent.

Windsor soils are commonly adjacent to and form a drainage sequence with moderately well drained Covert soils and somewhat poorly drained or poorly drained Wareham soils. Very poorly drained Napoleon soils are in nearby depressions or low areas. They have organic material more than 51 inches thick. Somewhat excessively drained Adams soils are near Windsor soils in some of the colder areas of the county.

Typical pedon of Windsor loamy fine sand, 0 to 3 percent slopes, in the city of Rome, Oneida County, 0.6 mile west of Route 69 and south of Humaston Road, approximately 90 yards along a dirt road:

Ap1—0 to 2 inches; very dark grayish brown (10YR 3/2) loamy fine sand, gray (10YR 6/1) dry; weak fine granular structure; very friable; many fine, common medium, and few coarse roots; very strongly acid; abrupt smooth boundary.

Ap2—2 to 7 inches; brown (10YR 4/3) loamy fine sand; weak medium granular structure; very friable; many fine, few medium, and few coarse roots; very strongly acid; abrupt smooth boundary.

Bw1—7 to 15 inches; strong brown (7.5YR 4/6) loamy fine sand; weak fine granular structure; very friable; common fine and few medium and coarse roots; very strongly acid; clear wavy boundary.

Bw2—15 to 21 inches; yellowish brown (10YR 5/6) fine sand; weak fine granular structure; very friable; few fine and very few medium and coarse roots; very strongly acid; clear wavy boundary.

Bw3—21 to 29 inches; yellowish brown (10YR 5/4) fine sand; very weak fine granular structure; very friable; few fine roots; very strongly acid; gradual irregular boundary.

C1—29 to 54 inches; pale brown (10YR 6/3) fine sand; single grain; loose; strongly acid; gradual wavy boundary.

C2—54 to 72 inches; light brown (7.5YR 6/4) fine sand; few coarse distinct yellowish brown (10YR 5/6) mottles, which are not redoximorphic concentrations; single grain; loose; strongly acid.

The thickness of the solum ranges from 18 to 36 inches. The depth to bedrock is more than 6 feet. The content of rock fragments ranges, by volume, from 0 to 10 percent in the solum and from 0 to 15 percent in the substratum. Reaction ranges from very strongly acid through moderately acid in the solum and from very strongly acid through slightly acid in the substratum.

The Ap horizons have hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. The fine-earth fraction is loamy sand or loamy fine sand. Structure is weak or moderate granular. Consistence is very friable, friable, or loose.

The upper part of the Bw horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 4 through 8. The lower part has hue of 7.5YR through 5Y, value of 4 through 7, and chroma of 3 through 6. The fine-earth fraction is loamy fine sand or loamy sand in the upper part of the horizon and loamy fine sand, loamy sand, fine sand, or sand in the lower part. Structure is weak granular or subangular blocky, or the horizon is massive or single grain. Consistence is very friable or loose.

The C horizon has hue of 5YR through 5Y, value of 4 through 7, and chroma of 1 through 6. The fine-earth fraction is fine sand, sand, loamy fine sand, or loamy sand. The horizon is massive or single grain. Consistence is very friable or loose.

Wonsqueak Series

The Wonsqueak series consists of very deep, very poorly drained soils in bogs and depressional areas on outwash plains, flood plains, and till plains on the Tug Hill Plateau. These soils formed in well decomposed organic material, which is 16 to 51 inches deep over loamy deposits. Slopes range from 0 to 2 percent.

Wonsqueak soils are adjacent to soils that are similar to Carlisle soils. The soils that are similar to Carlisle soils are at an elevation of more than 1,000 feet and have a slightly cooler soil temperature than the typical Carlisle soils. Wonsqueak soils have thinner organic deposits than Carlisle soils. In nearby areas of glacial till, Wonsqueak soils are adjacent to Tughill soils, which have a thin mucky surface layer, and are adjacent to somewhat poorly drained Westbury and poorly drained Dannemora soils, which do not have an organic surface layer or have a thin one.

Typical pedon of Wonsqueak muck, in the town of Florence, Oneida County, 900 feet west of Florence Hill Road and 1,000 feet north of Mulvaney Road:

Oa1—0 to 4 inches; black (N 2/0) (broken face and rubbed) sapric material (muck); 35 percent fibers unrubbed, 10 percent fibers rubbed; weak fine granular structure; very friable; common fine and very fine and few medium roots; strongly acid; clear smooth boundary.

Oa2—4 to 15 inches; black (N 2/0) (broken face and rubbed) sapric material (muck); 30 percent fibers unrubbed, 10 percent fibers rubbed; weak fine and medium granular structure; very friable; few fine and very fine roots; moderately acid; clear smooth boundary.

Oa3—15 to 27 inches; black (N 2/0) (broken face and rubbed) sapric material (muck); 40 percent fibers unrubbed, 12 percent fibers rubbed; massive; friable; moderately acid; abrupt smooth boundary.

C—27 to 72 inches; grayish brown (2.5Y 5/2) fine sandy loam; common medium prominent reddish brown (5YR 5/3) redoximorphic concentrations; massive; moderately acid.

The thickness of the organic soil material (or depth to the mineral substratum) ranges from 16 to 51 inches. In the organic layers, the content of woody fragments ranges from 0 to 20 percent and the content of mineral material ranges from 0 to 20 percent. The fibers are typically of herbaceous origin but in some layers are of woody origin. In some pedons fibers from sphagnum moss are dominant in the surface tier and make up thin layers in the subsurface and bottom tiers. The pH of the organic material ranges from 4.0 through 6.5 in 0.01-M calcium chloride, but it is 4.5 or more in at least some part of the control section.

The surface tier has hue of 2.5YR through 10YR or is neutral in hue. It has value of 2 or 3 and chroma of 0 through 2. It is typically sapric material (muck) but in some pedons is hemic material (mucky peat) or fibric material (peat) with or without sapric material. The tier is massive or has weak fine or medium granular or subangular structure. Consistence is nonsticky or slightly sticky. Reaction ranges from extremely acid through slightly acid in 0.01-M calcium chloride.

The subsurface and bottom tiers are neutral in hue or have hue of 2.5YR through 2.5Y. They have value of 2 through 4 and chroma of 0 through 3. They are typically sapric material (muck), but some pedons have thin layers of fibric material (peat) with a total thickness of less than 5 inches or thin layers of hemic material (mucky peat) with a total thickness of less than 10 inches. The subsurface and bottom tiers are massive or have platy, granular, or subangular blocky structure. Consistence is nonsticky or slightly sticky. Reaction ranges from very strongly acid through slightly acid in 0.01-M calcium chloride.

The C horizon is neutral in hue or has hue of 5YR through 5GY. It has value of 3 through 6 and chroma of 0 through 4. The fine-earth fraction ranges from fine sandy loam through silty clay loam. Consistence is slightly sticky or sticky and nonplastic through plastic. The content of rock fragments, mostly gravel, ranges from 0 to 20 percent, by volume. Reaction ranges from strongly acid through neutral.

Worth Series

The Worth series consists of very deep, well drained soils on glaciated uplands on the Tug Hill Plateau and in the Adirondack region. These soils formed in glacial till derived from mainly sandstone and siltstone. The subsoil has a dense fragipan at a depth of 24 to 36 inches. Slopes range from 3 to 45 percent.

Worth soils are commonly adjacent to and form a drainage sequence with moderately well drained Empeyville, somewhat poorly drained Westbury, and poorly drained Dannemora soils in depressions and the slightly lower areas. Bice soils are commonly adjacent to Worth soils. They are on the same landscape as the Worth soils and do not have a fragipan in the subsoil. Excessively drained Colosse soils are in nearby areas of glacial outwash.

Typical pedon of Worth loam, 3 to 8 percent slopes, stony, in the town of Florence, Oneida County, 1 mile north of Thompson Corners-Florence Road, 25 feet east of a north-south dirt road that parallels Hayes Road extension 0.75 mile to the east:

A—0 to 8 inches; dark brown (7.5YR 3/2) loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; very friable; many fine, common medium, and few coarse roots; 10 percent rock fragments; extremely acid; clear smooth boundary.

Bs1—8 to 18 inches; strong brown (7.5YR 4/6) gravelly fine sandy loam; weak medium subangular blocky structure parting to weak fine and medium granular; friable; common fine and few medium and coarse roots; few very fine, fine, and coarse tubular pores; very dark grayish brown (10YR 3/2) organo-argillans in some coarse tubular pores; 20 percent rock fragments, including 5 percent fragments more than 3 inches in diameter; very strongly acid; clear wavy boundary.

Bs2—18 to 22 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium and fine subangular blocky structure parting to weak fine granular; very friable; common fine and few medium and coarse roots; common fine vesicular and few fine and medium tubular pores; 15 percent rock fragments, including 5 percent fragments more than 3 inches in diameter; very strongly acid; clear wavy boundary.

E—22 to 27 inches; pinkish gray (7.5YR 6/2) gravelly fine sandy loam; moderate very coarse prismatic structure with weak medium and coarse subangular blocky structure within prisms; light brownish gray (2.5Y 6/2) prism interiors and brown (7.5YR 4/4) edges; firm and slightly brittle; few very fine tubular and common fine vesicular pores; thin clay films coating a few pores; common fine and very fine roots along faces of prisms; 25 percent rock fragments, including 5 percent fragments more than 3 inches in diameter; very strongly acid; clear wavy boundary.

Bx1—27 to 41 inches; brown (10YR 5/3) channery fine sandy loam; weak very coarse and extremely coarse prismatic structure with weak medium and coarse subangular blocky structure within prisms; separating prisms, streaks that are 12 to 24 inches apart with light brownish gray (2.5Y 6/2) prism interiors and brown (7.5YR 4/4) edges; firm and weakly brittle; common fine vesicular and few fine tubular pores; thin patchy clay films in 50 percent of the tubular pores; few fine and medium roots along faces of prisms; 30 percent rock fragments, including 10 percent fragments more than 3 inches in diameter; strongly acid; gradual wavy boundary.

Bx2—41 to 59 inches; yellowish brown (10YR 5/4) channery fine sandy loam; weak very coarse and extremely coarse prismatic structure with very weak thick platy structure within prisms; separating prisms, streaks that are 20 to 30 inches apart with light brownish gray (2.5Y 6/2) prism interiors and brown (7.5YR 4/4) edges; firm and moderately brittle; few fine vesicular and tubular pores; thin patchy clay films in 50 percent of the tubular pores; few fine and medium roots along faces of faces; 30 percent rock fragments, including 10 percent fragments more than 3 inches in diameter; strongly acid; gradual wavy boundary.

Cd—59 to 72 inches; brown (10YR 4/3) very cobbly coarse sandy loam; massive; firm; 50 percent rock fragments, including 25 percent fragments more than 3 inches in diameter; moderately acid.

The thickness of the solum ranges from 40 to 65 inches. The depth to bedrock is more than 60 inches. Depth to the top of the fragipan ranges from 24 to 36 inches. The content of rock fragments ranges from 10 to 35 percent, by volume, above the fragipan and from 25 to 50 percent in the fragipan and in the substratum. The content of silt ranges from 25 to 50 percent in the Bs horizons.

Some pedons in undisturbed areas have a dark O horizon, which is 3 to 6 inches thick; an E horizon, which is as much as 5 inches thick; and a Bh or Bhs horizon, which is as much as 3 inches thick.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. The fine-earth fraction is silt loam, loam, fine sandy loam, or sandy loam. Structure is weak or moderate granular. Consistence is very friable or friable. Reaction ranges from extremely acid through strongly acid.

The Bs horizons have hue of 5YR through 10YR, value of 4 or 5, and chroma of 4 through 6. The fine-earth fraction is fine sandy loam or loam. Structure is subangular blocky or granular. Consistence is friable or very friable. Reaction ranges from very strongly acid through moderately acid.

The E horizon ranges from loamy sand through loam in the fine-earth fraction and is perceptibly lighter in texture and higher in color value than the Bx horizons.

The Bx horizons have hue of 5YR through 2.5Y, value of 4 or 5, and chroma of 2 through 6. The fine-earth fraction is loam or fine sandy loam. Structure is weak coarse blocky or platy within coarse through extremely coarse prisms. Some pedons have prism interiors that are massive. Consistence is firm or very firm. Clay films line most pores but do not coat the faces of prisms. Reaction ranges from strongly acid through slightly acid.

The Cd horizon has hue of 5YR through 5Y, value of 4 or 5, and chroma of 2 through 4. The fine-earth fraction ranges from coarse sandy loam through loam. Structure is platy, or the horizon is massive. Consistence is firm or very firm. Reaction ranges from moderately acid through moderately alkaline.

Formation of the Soils

This section relates the factors of soil formation and processes of soil horizon development to the soils in Oneida County.

Factors of Soil Formation

Soils are natural three-dimensional bodies at the earth's surface. They are products of weathering and other physical and chemical processes that act on parent material. The properties of a soil at a given point on the earth depend on the combination of five factors of soil formation. These factors are the physical and chemical composition of the parent material, climate, plant and animal life, topography, and time. The relative influence of each of these factors differs from place to place, and each modifies the effect of the others. For example, the impact of climate over a given area is tempered by relief or parent material. In many areas the influence of a single factor is dominant. Local differences among soils are largely the result of variations in parent material and topography.

Parent Material

Parent material is the unconsolidated earthy material in which soils formed. It influences the physical, chemical, and mineralogical composition of the soils. It also influences the rate of soil-forming processes. The soils in Oneida County formed in a variety of material, including glacial till, glaciofluvial deposits (outwash), glaciolacustrine (lake laid) deposits, recent alluvium, and accumulations of organic material. Glacial till, glacial outwash, and lacustrine deposits consist of material that was left when the glaciers melted about 10,000 to 15,000 years ago. Alluvium and organic material are of more recent origin. Glacial till is the most extensive kind of parent material. Less extensive are glacial outwash, colluvial or alluvial deposits, lacustrine material, and accumulations of organic material. Table 25 shows the relationship between parent material, landscape position, and drainage class in the soils of Oneida County.

Soils that formed in glacial till have a wide range of characteristics as a result of the heterogeneous nature of the till, its rocks and soil particles. Some very deep soils that formed in glacial till have dense, firm or very firm layers in the lower part of the subsoil and in the substratum. Pinckney and Mardin soils are examples. Other very deep soils that formed in glacial till have friable rather than dense layers in the substratum. Bice and Chadakoin soils are examples. In some areas the glacial till deposits are relatively thin and overlie hard bedrock. Arnot soils, which are shallow to sandstone, siltstone, or shale bedrock, are examples of the soils in these areas. Galway soils, which are moderately deep over limestone bedrock, are an additional example. In some areas the bedrock is exposed. A few soils in the county are mapped in complex with rock outcrop or are very rocky phases in areas where the glacial till deposits are very thin.

As the glacial ice melted, large quantities of meltwater transported and sorted the soil and rock debris. This material, referred to as glacial outwash, was redeposited in layers of sand and gravel on outwash plains and terraces. Chenango and Alton soils are examples of the soils that formed in this material. These soils are skeletal and have very gravelly and sandy layers in the subsoil and substratum.

In some parts of the county, small glacial lakes trapped silty or clayey sediments. Scio and Rhinebeck soils are examples of soils that formed in these lacustrine deposits. Scio soils formed in medium textured deposits, and Rhinebeck soils formed in fine textured deposits.

In more recent times, overflowing streams have deposited alluvial material on flood plains. This material tends to vary in texture. Examples of soils that formed in medium textured alluvium are those of the Otego and Wakeville series. Udifluvents and Fluvaquents are examples of soils that generally formed in variably textured alluvial material. They show little or no evidence of horizon development.

Soils that formed in accumulations of organic material are mainly in closed depressions. Carlisle and Wonsqueak are examples of soils that formed in well decomposed organic material.

Topography

Soil formation in Oneida County has been significantly influenced by the shape of the land surface, commonly called the lay of the land; the slope; and the position of the land surface in relation to the water table.

Berkshire, Lansing, and other soils that formed in convex, sloping areas, where little or no runoff accumulates, are generally well drained, have bright colored subsoil layers, and do not have gray mottles (redoximorphic features). In most areas these soils are leached to a greater depth than the wetter soils in the same general area.

In the more gently sloping or concave areas where runoff is slower, the soils generally exhibit some evidence of short periods of wetness, such as mottles (redoximorphic features) in the subsoil. Conesus and Niagara soils are examples.

In level or slightly depressional areas, the water table is usually closer to the surface for extended periods and the soils show marked evidence of wetness. These soils have low-chroma matrix colors or redoximorphic features close to the surface. In some areas they also tend to have a dark surface layer because of the accumulation of sediment or organic material on the surface. Examples of these soils are those of the Lyons and Tughill series. Dannemora and other soils are wet because they are in areas where water accumulates and is perched above a restrictive layer in the soils.

Table 25 shows the relationship between landscape position and drainage class in the soils of Oneida County.

Climate

Climate, in particular temperature and precipitation, is one of the most influential of the soil-forming factors. It determines to a large degree the kind of weathering processes that occur in the soil. Also, it affects the growth and kind of vegetation and the leaching and translocation of weathered material. Frost action contributes to the breakdown of stones and boulders.

Oneida County has a humid, temperate climate that tends to promote the development of moderately weathered, leached soils. The average temperature in the county varies enough to cause significant differences between the soils in the Mohawk Valley and the southern part of the county and the soils in the northern part, especially above an average elevation of 1,000 feet. The soils in the northern part of the county formed under colder conditions, which slowed down formative factors, such as decomposition, biological activity, and weathering. These soils tend to have a slightly higher content of organic matter in the surface layer than the other soils in the county.

Plant and Animal Life

All living organisms, including plants, animals, bacteria, and fungi, influence soil formation. Vegetation is generally responsible for the amount of organic matter and plant nutrients in the soil and for the color and structure of the surface layer. Earthworms and borrowing animals help to keep the soil porous and more permeable for the movement of air and water. Their waste products cause aggregations of soil particles and improve soil structure. Bacteria and fungi decompose vegetation, and this decomposition results in the release of plant nutrients.

Oneida County originally supported native forest species consisting of northern hardwoods, pine, and hemlock. The loss of nutrients through leaching is slow in soils under hardwoods, which take up large quantities of bases (nutrients) and return many of them to the soil surface each year as leaf litter. Conifers, such as pines and hemlock, do not use large amounts of nutrients; therefore, leaching is more rapid than it is under hardwoods. The rooting depth of trees is shallow on many of the uplands and wet areas in the county. As a result, trees are susceptible to windthrow, which has caused much mixing of the soil materials.

Human activity, namely, clearing woodland of trees and cultivating the land, has influenced the soils in the county. Applications of fertilizer have added nutrients, and plowing has mixed some soil horizons. Also, human disturbances have accelerated erosion in many areas.

Time

The degree of profile development reflects not only the age of a soil but also the influence of the other soil-forming factors. In geological terms, the deposits in which the soils in Oneida County formed are relatively young. They were deposited after or when the last glacier receded about 10,000 to 15,000 years ago.

The soils in the county have not all reached the same stage of soil profile development because the other-soil forming factors influence the rate of soil profile development. The time factor is fairly constant throughout the county. Differences in appearance and in the depth of weathering tend to be a function of variations in the parent material.

Immature soils have not had enough time for the development of distinct horizons. Wayland soils and Fluvaquents are examples. They formed in recent alluvium in areas that are regularly flooded. Sediment is deposited during periods of flooding. As a result, soil formation is constantly interrupted and thin or irregular soil profiles develop.

Processes of Horizon Development

The soil-forming factors result in the formation of different layers, or soil horizons. These horizons can be viewed in a vertical cut of soil, known as a soil profile. The soil profile extends from the surface downward into material that is little altered by the soil-forming processes. Most soils have three major horizons, called A, B, and C horizons.

Several processes cause the formation of soil horizons. They include the accumulation of organic matter, the leaching of soluble salts and minerals, the translocation of clay minerals, and the reduction and transfer of iron.

The accumulation of organic matter takes place as plant residue decomposes. This process darkens the surface layer and helps to form the A horizon. Once organic matter has been lost, replacing it takes a long time. The content of organic matter in the surface layer of the soils in the county averages about 5 percent.

For soils to develop a distinct subsoil, some of the soluble salts must be leached before other soil processes, such as translocation of clay minerals, can take place. The factors that affect leaching include the kinds of salts originally present, the rate and depth of percolation, and the texture of the soil.

One of the more important processes of soil horizon development in some of the soils in the county is the translocation of silicate clay minerals. Clay particles are transported downward from an eluviated A horizon and are deposited in an illuviated B horizon as clay films on faces of peds, as linings along pores and root channels, and as coatings on some rock fragments. In some soils an E horizon has formed because of the considerable loss of minerals and clay to the B horizon through eluviation. Collamer soils are an example of soils in which the content of clay is higher in the B horizon than in the A horizon because of translocation.

Gleying, or the reduction and transfer of iron compounds, occurs mainly in the more poorly drained soils. In poorly drained and very poorly drained soils, such as Marcy and Palms soils, a grayish substratum indicates the reduction of iron. In somewhat poorly drained soils, such as Minoa and Appleton soils, yellowish brown, strong brown, and brown mottles and redoximorphic concentrations indicate the segregation of iron compounds. Unadilla and other well drained soils have a bright colored, unmottled subsoil in which no reduction or transfer of iron has taken place.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 1998) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The map units on the following list meet the definition of hydric soils and, in addition, generally have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Hydric soils in Oneida County:

1	Udifluvents-Fluvaquents complex, frequently flooded
7	Wayland silt loam
13	Fluvaquents-Borosaprists complex
31	Halsey gravelly loam
43	Jebavy sand
60B	Adirondack fine sandy loam, 2 to 8 percent slopes, very bouldery
72	Canandaigua silt loam
75	Lamson fine sandy loam
92	Napoleon peat
94	Naumburg loamy sand
95	Carlisle muck
99	Greenwood peat
146	Lyons silt loam
150	Tughill mucky silt loam, stony
151	Chippewa silt loam
155	Dannemora gravelly fine sandy loam, stony
195	Palms muck, drained
212	Adrian muck
269	Greene-Tuller complex
295	Carlisle muck, drained
395	Palms muck
397	Wonsqueak muck
398	Dawson peat
461	Marcy silt loam
462	Runeberg loam
804	Chippewa silt loam, stony
814	Gretor-Torull complex
831	Tughill mucky silt loam, stony, warm
982	Wallkill silt loam

Map units that are made up mainly of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up mainly of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the criteria for hydric soils because the major soils do not have one of the hydric soil indicators. In some of these map units, however, included hydric soils may occur. Onsite investigation is needed to determine whether hydric soils occur and the location of the included hydric soils.

Map units with nonhydric major soils but with some areas of hydric inclusions:

4	Wakeville silt loam, occasionally flooded
30	Fredon gravelly silt loam
41	Niagara fine sandy loam
50	Wareham loamy fine sand
63A	Wallington very fine sandy loam, 0 to 3 percent slopes
63B	Wallington very fine sandy loam, 3 to 8 percent slopes
64A	Rhinebeck silt loam, 0 to 3 percent slopes
64B	Rhinebeck silt loam, 3 to 8 percent slopes
68	Wakeville silt loam, rarely flooded
76	Niagara silt loam
79A	Roundabout silt loam, 0 to 3 percent slopes
79B	Roundabout silt loam, 3 to 8 percent slopes

113A	Camroden silt loam, 0 to 3 percent slopes
113B	Camroden silt loam, 3 to 8 percent slopes
113C	Camroden silt loam, 8 to 15 percent slopes
136A	Kendaia silt loam, 0 to 3 percent slopes
136B	Kendaia silt loam, 3 to 8 percent slopes
144A	Westbury silt loam, 0 to 3 percent slopes, stony
144B	Westbury silt loam, 3 to 8 percent slopes, stony
223A	Malone loam, 0 to 3 percent slopes
223B	Malone loam, 3 to 8 percent slopes
223C	Malone loam, 8 to 15 percent slopes
260A	Ovid silt loam, 0 to 3 percent slopes
260B	Ovid silt loam, 3 to 8 percent slopes
267B	Greene silt loam, 3 to 8 percent slopes
267C	Greene silt loam, 8 to 15 percent slopes
372A	Appleton silt loam, 0 to 3 percent slopes
372B	Appleton silt loam, 3 to 8 percent slopes
413B	Venango silt loam, 2 to 8 percent slopes
413C	Venango silt loam, 8 to 15 percent slopes
747A	Manheim silt loam, 0 to 3 percent slopes
747B	Manheim silt loam, 3 to 8 percent slopes
747C	Manheim silt loam, 8 to 15 percent slopes
750B	Minoa fine sandy loam, 0 to 6 percent slopes
807A	Manheim silt loam, 0 to 3 percent slopes, cool
807B	Manheim silt loam, 3 to 8 percent slopes, cool
807C	Manheim silt loam, 8 to 15 percent slopes, cool
813B	Gretor silt loam, 3 to 8 percent slopes
813C	Gretor silt loam, 8 to 15 percent slopes
819A	Kendaia silt loam, 0 to 3 percent slopes, cool
819B	Kendaia silt loam, 3 to 8 percent slopes, cool
823A	Malone loam, 0 to 3 percent slopes, warm
823B	Malone loam, 3 to 8 percent slopes, warm
823C	Malone loam, 8 to 15 percent slopes, warm
833A	Westbury silt loam, 0 to 3 percent slopes, stony, warm
833B	Westbury silt loam, 3 to 8 percent slopes, stony, warm

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Glossary

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.
Alluvial. Pertaining to material or processes associated with transportation and/or subaerial deposition by concentrated running water.
Alluvial fan. A low, outspread mass of loose material and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.
Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.
Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
Anthropogenic feature. An artificial feature on the land surface that has a characteristic shape and range in composition; is made up of unconsolidated earthy, organic material, artificial material, or rock; and is the direct result of human manipulation or activities; can be either constructional (e.g., artificial levee) or destructional (quarry).
Aquifer. A saturated, permeable geologic unit of sediment or rock that can transmit significant quantities of water under hydraulic gradients.
Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.
Aspect. The direction toward which a slope faces. Also called slope aspect.
AUM. See Animal unit month.
Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 2.4
Low	2.4 to 3.2
Moderate	3.2 to 5.2
High	more than 5.2

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.
Bar (stream). A general term for a ridgelike accumulation of sand, gravel, or other alluvial material formed in the channel, along the banks, or at the mouth of a stream where a decrease in velocity induces deposition.
Basal till. Unconsolidated material of mixed composition deposited at the base (bottom) of a glacier. Types of basal till include lodgement, melt-out, and flow till.

Basin. A drainage basin or a low area of tectonic origin in which sediments have accumulated.

Bed (stratigraphy). The layer of sediments or sedimentary rocks bounded above and below by more-or-less well defined bedding surfaces. The smallest, formal lithostratigraphic unit of sedimentary rocks. The designation of a bed or a unit of beds as a formally named lithostratigraphic unit generally should be limited to certain distinctive beds the recognition of which is particularly useful. Coal beds, oil sands, and other layers of economic importance commonly are named, but such units and their names generally are not a part of formal stratigraphic nomenclature.

Bedded. Formed, arranged, or deposited in layers or beds or made up of or occurring in the form of beds; especially applies to a layered sedimentary rock, deposit, or formation.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bog. Waterlogged, spongy ground consisting primarily of mosses and containing acidic, decaying vegetation, such as sphagnum, sedges, and heaths, that may develop into peat.

Borrow pit. An excavated area from which earthy material has been removed typically for construction purposes offsite; also called barrow pit.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Buried. Pertaining to landforms, geomorphic surfaces, or paleosols covered by younger sediments (e.g., eolian, glacial, and alluvial sediments).

Buried soil. Soil covered by an alluvial, loessial, or other earthy mantle of more recent material, typically to a depth of more than 50 centimeters. Recent surface deposits less than 50 centimeters thick are generally considered part of the ground soil.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Channel (stream). The hollow bed where a natural body of surface water flows or may flow. The deepest or central part of the bed of a stream, containing the main current and occupied more or less continuously by water.

Chert. A hard, extremely dense or compact, dull to semivitreous, cryptocrystalline sedimentary rock consisting dominantly of interlocking crystals of quartz less than about 30 millimeters in diameter; it may contain amorphous silica (opal). In places it contains impurities, such as calcite, iron oxide, or the remains of silicious and other organisms. It has a tough, splintery to conchoidal fracture and may be white or variously colored gray, green, blue, pink, red, yellow, brown, and black. Chert occurs principally as nodular or concretionary segregations in limestone and dolomite.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Closed depression. A generic name for any enclosed area that has no surface drainage outlet and from which water escapes only through evaporation or subsurface drainage; an area of lower ground indicated on a topographic map by a hachured contour line forming a closed loop.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion . Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Creep (mass movement). The process, associated sediments (creep deposit), or resultant landform or mantle characterized by a very slow type of earthflow dominated by the gradual movement of unconsolidated earthy material down slopes, caused by gravity, facilitated by occasional saturation with water or alternate freezing and thawing; sometimes redundantly called soil creep.

Crest. The commonly linear, narrow top of a ridge, hill, or mountain. The term is appropriately applied to elevated areas where retreating backslopes are converging so much that these high areas consist almost exclusively of convex shoulders.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cut (geology). A passage, incision, or space from which material has been excavated, such as a road cut or a railroad cut.

Cut and fill. A process of leveling in which material eroded from one place by waves, currents, streams, or winds is deposited nearby until the surfaces of erosion and deposition are continuous and uniformly graded; especially lateral erosion on the concave banks of a meandering stream accompanied by deposition within its loops.

Cutbank. A slope or wall portion of a cut excavated into unconsolidated material (regolith) or bedrock, as in a borrow pit. It may stand nearly vertical when resulting from collapse as the base is undercut by excavation or erosion, or it may be reduced by subsequent erosion to a more subdued angle by slope wash.

Debris. Any surficial accumulation of loose material detached from rock masses by chemical and mechanical means, as by decay and disintegration. It consists of rock clastic material of any size and, in some areas, organic matter.

Degradation (geomorphology). The wearing down or away and general lowering of the land surface by natural processes of weathering and erosion (e.g., the deepening of a channel by its stream). Degradation may imply the transportation of sediment.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dendritic drainage pattern. A drainage pattern in which the streams branch randomly in all directions and at almost any angle, resembling the branching of certain trees.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Deposit. Earth material of any type, either consolidated or unconsolidated, that has accumulated by natural processes.

Deposition. The laying down of any material by any natural agent, such as wind, water, and ice.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. Unlike an open depression, a closed depression has no natural outlet for surface drainage (e.g., a sinkhole).

Discontinuity (stratigraphy). Any interruption in sedimentation, whatever its cause or length, usually a manifestation of nondeposition and accompanying erosion; an unconformity.

Ditch. An open and usually unpaved (unlined) channel or trench excavated to convey water for drainage or irrigation or to from a landscape; smaller than a canal; some ditches are modified natural waterways.

Divide. The line of separation. Also, the summit area, or narrow tract of higher ground that constitutes the watershed boundary between two adjacent drainage basins; it divides the surface waters that flow naturally in one direction from those that flow in the opposite direction.

Dolomite. A carbonate sedimentary rock consisting chiefly (more than 50 percent by weight or by areal percentages under a microscope) of the mineral dolomite.

Drainage basin. A general term for a region or area bounded by a drainage divide and occupied by a drainage system.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage pattern. The arrangement of the natural stream courses in an area. It is related to local geologic and geomorphologic features and history.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer have glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacial flow. Drumlins are products of the streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Dump. An area of smooth or uneven accumulations or piles of waste rock, earthy material, or general refuse that without major reclamation are incapable of supporting plants.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time; a moraine that has been deposited at the outer or lower end of a valley glacier.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Erratic. A rock fragment carried by glacial ice, or by floating ice (ice-rafting), subsequently deposited at some distance from the outcrop from which it was derived, and generally, though not necessarily, resting on bedrock or sediments of different lithology. Rock fragments range in size from a pebble to a house-size block.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan (geomorphology). (a) A gently sloping, fan-shaped mass of detritus forming a section of a low-angle cone commonly at a place where there is a notable decrease in gradient; specifically, an alluvial fan, which is a better term. (b) A fan-shaped mass of congealed lava that formed on a steep slope by the continually changing direction of flow.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Fill. (a) A human-constructed deposit of natural earth material (e.g., soil, gravel, or rock) and waste material (e.g., tailings or spoil from dredging) used to fill a depression, to extend shore land into a body of water, or in building dams. (b) Soil or loose rock used to raise the surface level of low-lying land, such as an embankment to fill a hollow or ravine in road construction.

Fine textured soil. Sandy clay, silty clay, or clay.

Flat (geomorphology). (a) As an adjective, pertaining to an area characterized by a continuous surface or stretch of land that is smooth, even, or horizontal, or nearly so, and that lacks any significant curvature, slope, elevation, or depressions. (b) As a noun, an informal, generic term for a level or nearly level surface or small area of land marked by little or no local relief.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially. It is generally a constructional landform built of sediment deposited during the overflow and lateral migration of streams.

Floor (geomorphology). An essentially flat, terracelike alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Flow (mass movement). A category of mass movement processes and the associated sediments (flow deposits) and landforms characterized by slow to very rapid downslope movement of unconsolidated material that, whether saturated or comparatively dry, behaves much as a viscous fluid as it moves. Types of flows can be specified on the basis of the dominant particle size of sediments (i.e., debris flow, such as lahar; earth flow, such as creep and mudflow; rock fragment flow, such as rockfall avalanche; and debris avalanche).

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. Steeply sloping uplands consisting of hills that fringe a mountain range or high-plateau escarpment and have relief of 30 to 300 meters.

Footslope. The hillside profile position that forms the concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Formation (stratigraphy). The basic lithostratigraphic unit in the local classification of rocks. A body of rock (commonly a sedimentary stratum or strata but also igneous and metamorphic rocks) that generally is characterized by some degree of internal lithologic homogeneity or distinctive lithologic features (such as chemical composition, structures, textures, or general kind of fossils) and by a prevailing (but not necessarily tabular) shape and that can be mapped at the earth's surface (at scales of the order of 1:25,000) or is traceable in the subsurface. A formation may be combined into groups or subdivided into members.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frigid soil temperature regime. A soil temperature regime that is colder than a mesic temperature regime. A soil with a frigid temperature regime has a mean annual soil temperature lower than 8 degrees C, and the difference between mean summer and mean winter soil temperatures is more than 6 degrees C at a depth of 50 cm from the soil surface.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Furrow. A linear or arcuate opening left in the soil after a plow or disk has opened a shallow channel at the soil surface. A shallow channel cut in the soil surface, usually between planted rows, for controlling surface water and soil loss or for conveying irrigation water.

Geomorphic component. A fundamental, three-dimensional area of a geomorphic setting (i.e., hills, mountains, terraces, and flat plains) that has unique and prevailing kinetic energy dynamics and sediment transport conditions that result in a characteristic form, pattern of sedimentation, and kind of soil development.

Geomorphic surface. A mappable area of the earth's surface that has a common history, is formed by a set of processes during an episode of landscape evolution, and is of similar age. A geomorphic surface can be erosional, constructional, or both. The surface shape can be planar, concave, convex, or any combination of these.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically, the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures and of the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Glacial. Of or relating to the presence and activities of ice and glaciers, as in glacial erosion; to distinctive features and materials produced by or derived from glaciers and ice sheets, as in glacial lakes; and to an ice age or region of glaciation.

Glacial lake. A lake that derives much or all of its water from the differential melting of glacial ice, is fed by meltwater, and lies outside the margins of the glacier (e.g., proglacial lake) or on a glacier (e.g., ice-walled lake and ice-floored lake).

Glacial outwash. See Outwash.

Glacial till. See Till.

Glaciation. The formation, movement, and recession of glaciers or ice sheets. A collective term for the geologic processes of glacial activity, including erosion and deposition, and the resulting effects of such action on the earth's surface.

Glacier. A large mass of ice formed, at least in part, on land by the compaction and recrystallization of snow, moving slowly by creep downslope or outward in all directions due to the stress of its own weight, and surviving from year to year. Included are small mountain glaciers as well as ice sheets continental in size, and ice shelves which float on the ocean but are fed in part by ice formed on land.

Glaciofluvial deposit. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and may occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposit. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes by water originating mainly from the melting of glacial ice. Many are bedded or laminated with varves or rhythmites.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit. A depression, ditch, or pit excavated to furnish gravel for roads or other construction purposes; a type of borrow pit.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Ground moraine. An area of poorly sorted rock and mineral debris (till) dragged along, in, on, or beneath a glacier and deposited by processes that include basal lodgement and release from the downwasting of stagnant ice by ablation.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water, usually during and immediately following heavy rainfall or the melting of ice and snow. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Hill. A generic term for an elevated area of the land surface, rising from at least 30 meters (100) feet to as much as 300 meters (about 1,000 feet) above surrounding lowlands, commonly of nominal summit area relative to bounding slopes and having a well defined, rounded outline. Slopes are generally more than 15 percent. A hill can occur as a single, isolated mass or in a group. It can be a low hill (having relief of 30 to 90 meters) or a high hill (having relief of 90 to 300 meters). The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hills. Areas where the landscape is dominated by hills and associated valleys.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Holocene. The epoch of the Quaternary Period of geologic time following the Pleistocene Epoch (from the present to about 10 to 12 thousand years ago); also, the corresponding time-stratigraphic "series" of earth materials.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by solidification from a molten or partly molten state. Major varieties include plutonic and volcanic rocks (e.g., andesite, basalt, and granite).

Interbedded. Pertaining to beds lying between or alternating with others of different character; especially pertaining to rock material or sediments laid down in sequence between other beds, such as "interbedded" sand and gravel.

Intermittent stream. A stream, or reach of a stream, that does not flow throughout the year (commonly is dry for 3 or more months of the year) and has a channel that is generally below the local water table; it flows only when it receives base flow (i.e., solely during wet periods) or ground-water discharge or protracted contributions from melting snow or other erratic surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Clastic sediments and chemical precipitates deposited in lakes.

Lake. An inland body of permanently standing fresh or saline water occupying a depression on the earth's surface, generally of appreciable size (larger than a pond), and too deep for vegetation (excluding subaqueous vegetation).

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lamella. A thin (less than 7.5 centimeters), discontinuous or continuous, generally horizontal layer of fine textured material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated) within a coarser textured (e.g., sandy), eluviated layer several centimeters to several decimeters thick.

Landform. Any physical, recognizable form or feature on the earth's surface having a characteristic shape and range in composition and produced by natural causes; it can span a wide range in size (e.g., dune encompasses both "parabolic dune," which can be several tens of meters across, and "seif dune," which can be as much as 100 kilometers long).

Landscape. An assemblage, group, or family of spatially related, natural landforms throughout a relatively large area; the land surface that the eye can see in a single view.

Landslide (mass movement). A general, encompassing term for most types of mass-movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials, caused by gravitational forces, and in some areas involving saturated material. The names of landslide types generally reflect the dominant process and/or the resultant landform. Examples are *rockfall, soil fall, topple, rotational landslide, block glide, debris slide, lateral spread, rockfall avalanche, debris avalanche, debris flow, creep,* and *mudflow*.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Ledge. (a) A narrow shelf or projection of rock, much longer than it is wide, formed on a rock wall or cliff face, as along a coast, by differential wave action on softer rocks; erosion is caused by combined biological and chemical weathering. (b) A rocky outcrop; solid rock. (c) A shelflike quarry exposure or natural rock outcrop.

Leveled land. A land area, generally a field, that has been mechanically flattened or smoothed because of the need to facilitate management practices, such as flood irrigation; the natural soil has been partially or completely modified (e.g., truncated or buried).

Limestone. A sedimentary rock consisting chiefly (more than 50 percent) of calcium carbonate, primarily in the form of calcite. Limestone generally forms through a combination of organic and inorganic processes and includes chemical and clastic (soluble and insoluble) constituents. In many areas it contains fossils.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Lodgement till. A basal till commonly characterized by compact, fissile (platy) structure and having rock fragments that are oriented with their long axes generally parallel to the direction of ice movement.

Log landing. A comparatively level area, generally accessible by roads, constructed or cut into steeper slopes, and used for sorting logs during timber harvesting.

Low strength. The soil is not strong enough to support loads.

Marine deposits. Sediments (dominantly sands, silts, and clays) of marine origin; laid down in the salty waters of an ocean.

Marsh. Periodically wet or continually flooded areas where the surface is not deeply submerged. Covered dominantly by sedges, cattails, rushes, or other hydrophytic plants.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress. The process includes slow displacement, such as creep and solifluction, and rapid movement, such as landslides, rock slides, falls, earth flows, debris flows, and avalanches. Agents of fluid transport (water, ice, and air) may play an important, if subordinate, role in the process.

Masses. See Redoximorphic features.

Meander, stream. One of a series of regular, freely developing sinuous curves, bends, loops, turns, or windings in the course of a stream.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesic soil temperature regime. A soil temperature regime that warmer than a frigid temperature regime. A soil with a mesic temperature regime has a mean annual soil temperature of 8 degrees C or higher, but lower than 15 degrees C (59 degrees F), and the difference between mean summer and mean winter soil temperatures is more than 6 degrees C at a depth of 50 centimeters from the soil surface.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline. Examples are schist, gneiss, quartzite, slate, and marble.

Microrelief. Slight variations in the height of a land surface that are too small or intricate to delineate on a topographic or soils map at commonly used map scales (e.g., 1:24,000 through 1:10,000). Examples are microhighs and microlows.

Mineral soil. Soil that is mainly mineral material and low in centent of organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, generally having a nominal summit area (relative to bounding slopes), and generally having steep sides (a slope of more than 25 percent). A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Mountaintop. A geomorphic component of mountains consisting of the uppermost, comparatively level or gently sloping area of the mountains, characterized by relatively short, simple slopes made up of bare rock, residuum, or short-transport colluvial sediments. In humid environments, soils on mountaintops can be quite thick and well developed.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. See Hemic soil material.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natural levee. A long, broad, low ridge or embankment of sand and coarse silt built by a stream on its flood plain and along both sides of its channel, especially during periods of flooding, when water overflowing the normal banks is forced to deposit the coarsest part of its load. The levee has a gentle slope away from the river and toward the surrounding flood plain, and its highest elevation is closest to the riverbank.

Nodules. See Redoximorphic features.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic material. Unconsolidated sediments or deposits in which carbon is an essential, substantial component. Several types of organic deposits can be identified on the basis of the composition of the dominant fibers (grassy organic material, herbaceous organic material, mossy organic material, and woody organic material).

Ortstein. A cemented zone of accumulated organic material, aluminum, and iron that was translocated from a horizon above.

Outwash (glacial geology). Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash fan. A fan-shaped accumulation of outwash deposited by meltwater streams in front of the end or recessional moraine of a glacier. Coalescing outwash fans form an outwash plain.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted because of the melting of incorporated ice masses, it generally is low in relief.

Outwash terrace. A flat-topped bank of outwash with an abrupt outer face (scarp or riser) extending along a valley downstream from an outwash plain or terminal moraine; a valley train deposit.

Overburden. (a) The upper part of a sedimentary deposit, compressing and consolidating the materials below. (b) The loose soil or other unconsolidated material overlying bedrock, either transported or formed in place (synonym for regolith).

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Perennial stream. A stream or reach of a stream that flows continuously throughout the year and has a surface that is generally lower than the water table in the area adjoining the stream.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Physiographic province. A region in which all parts are similar in geologic structure and climate and in which the geomorphic history is unified. The pattern of relief features and landforms differs significantly from that of adjacent regions. Examples are the Valley and Ridge, Blue Ridge, and Piedmont Provinces in the Eastern United States.

Plain. A general term for any flat lowland area, large or small, at a low elevation. Specifically, any extensive region of comparatively smooth and level to gently undulating land. A plain has few or no prominent hills or valleys but in places has considerable slope, and it generally occurs at a low elevation relative to the surrounding areas. In dissected areas, remnants of a plain can form the local uplands. A plain may be forested or bare of trees and may be formed by deposition or erosion.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Pleistocene. The epoch of the Quaternary Period of geologic time (from about 10 to 12 thousand years ago to 1.6 million years ago), following the Pliocene and preceding the Holocene; also, the corresponding time-stratigraphic "series" of earth materials.

Pond. (a) A natural body of standing fresh water occupying a small surface depression, generally smaller than a lake and larger than a pool. (b) A small artificial body of water used as a source of water.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Pothole (glacial geology). A type of small pit or closed depression (1 to 15 meters deep), generally circular or elliptical, occurring on an outwash plain, a recessional moraine, or a till plain.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proglacial lake. A type of glacial lake that formed just beyond the margin of an advancing or retreating glacier, generally in direct contact with the ice.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Quarry. Excavation areas that are open to the sky and generally are used for the extraction of stone.

Quaternary. The period of the Cenozoic Era of geologic time, extending from the end of the Tertiary Period (about 1.6 million years ago) to the present and comprising two epochs—the Pleistocene (Ice Age) and Holocene (Recent); also, the corresponding time-stratigraphic "series" of earth materials.

Railroad bed. The trace or track of a railroad route, commonly raised slightly above the adjacent land, and made up mostly of earthy materials (e.g., gravel and other rock fragments). Abandoned or reclaimed beds may no longer be topographically or visually distinct, but the materials used to construct them may still be a significant portion of the soil zone.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Extremely acid	less than 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Reclaimed land. A land area made up of earthy fill material that has been placed and shaped so that it approximates natural contours; commonly an area where land-reclamation efforts have been applied after mining operations.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits. Soil scientists regard as soil only that part of the regolith that is modified by organisms and soil-forming processes. Most engineers describe the whole regolith, even to a great depth, as "soil."

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Ridge. A long, narrow elevation of the land surface, generally having sharp crests and steep sides and forming an extended upland between valleys. The term is used in areas of both hill and mountain relief.

Rill. A very small channel that has steep sides, is caused by erosion, and is cut in unconsolidated materials by a concentrated but intermittent flow of water, usually during and immediately following moderate rainfall or after the melting of ice and snow. Generally, a rill is not an obstacle to wheeled vehicles and is shallow enough (i.e., less than 0.5 meter) to be obliterated by ordinary tillage.

River. A general term for a natural, freshwater surface stream of considerable volume and generally with a permanent base flow, moving in a defined channel toward a larger river, lake, or sea.

River valley. An elongate depression in the earth's surface; carved by a river during the course of its development.

Roadbed. The trace or track of a wheeled vehicle route that may or may not be raised slightly above the adjacent land and consists of earthy fill material (e.g., gravel and other rock fragments) or local soil material. Traffic can alter various soil properties primarily as a result of compaction. Abandoned or reclaimed beds may no longer be topographically or visually distinct. The materials used to construct beds and the changes in soil properties may continue to have a significant impact on land management or plant growth.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. An exposure of bedrock at or above the ground surface.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sand pit. A depression, ditch, or pit excavated to furnish sand for roads or other construction purposes; a type of borrow pit.

Sand plain (geomorphology). A sand-covered plain that may originate through the deflation of sand dunes; the lower limit of erosion is governed by the ground-water level.

Sandstone. Sedimentary rock containing dominantly sand-sized clastic particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Sanitary landfill. A land area where municipal solid waste is buried in a manner engineered to minimize environmental degradation. Commonly, the waste is compacted and ultimately covered with soil or other earthy material.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarp. An escarpment, cliff, or steep slope of some extent along the margin of a plateau, mesa, terrace, or structural bench. A scarp may be of any height.

Seasonal high water table. A zone of saturation at the highest average depth during the wettest season. It is at least 6 inches thick, persists in the soil for more than a few weeks, and is within 6 feet of the soil surface. The depth to a seasonal high water table implies the degree of wetness in the soil.

Sediment. Mineral and organic material that is in suspension, is being transported, or has been moved from its site of origin by water, wind, ice, or mass-wasting and has come to rest on the earth's surface either above or below sea level. Sediment in a broad sense also includes material precipitated from solution or emplaced by explosive volcanism and organic remains (e.g., peat) that have not been subject to appreciable transport.

Sedimentary peat. An accumulation of organic material that consists dominantly of the remains of floating aquatic plants (e.g., algae) and the remains and fecal material of aquatic animals, including coprogenous earth.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Seep. A generally small area where water or oil percolates slowly to the land surface. For water, it may be considered a seepage spring, but some people use the term for flows too small to be considered springs.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sewage lagoon. Any artificial pond or other water-filled excavation used for the natural oxidation of sewage or the disposal of animal manure.

Shale. Sedimentary rock that formed by induration of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside; contour lines generally form straight lines. The overland waterflow is dominantly parallel (e.g., sheet wash). Side slopes are dominantly colluvium and slope-wash sediments.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Skid trail. An irregularly spaced, roughly linear to radial depression or small mound associated with shallow to deep soil disturbance caused by the dragging of logs across a slope from where they were cut down to a central processing area, such as a log landing, during timber harvesting.

Slope (gradient). The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth’s surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spodic horizon. A mineral soil horizon that is characterized by the illuvial accumulation of amorphous materials composed of aluminum and organic carbon with or without iron. The spodic horizon has a certain minimum thickness and a minimum quantity of extractable carbon plus iron plus aluminum in relation to its content of clay.

Spoil pile. (a) A bank, mound, or other artificial accumulation consisting of spoil (e.g., an embankment of earthy material dredged from a channel and deposited alongside it). (b) A pile of refuse material from an excavation or mining operation (e.g., a pile of dirt removed from and stacked at the surface of a mine in a conical heap or in layers).

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stratified. Formed, arranged, or laid down in layers. The term refers to geologic deposits. Layers in soils that result from the processes of soil formation are called horizons; those inherited from the parent material are called strata.

Stratigraphy. The branch of geology that deals with the definition and interpretation of layered earth materials; the conditions of their formation; their character, arrangement, sequence, age, and distribution; and especially their correlation by the use of fossils and other means. The term is applied both to the sum of the characteristics listed and a study of these characteristics.

Stream. Any body of running water that moves under gravity to progressively lower levels, in a relatively narrow but clearly defined channel on the ground surface, in a subterranean cavern, or beneath or in a glacier. It is a mixture of water and dissolved, suspended, or entrained matter.

Stream terrace. One or a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream, and representing the remnants of an abandoned flood plain, streambed, or valley floor produced during a former state of fluvial erosion or deposition. Currently, the terrace is very rarely or never flooded.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subaqueous. Pertaining to conditions and processes or to features or deposits that occur or operate in or under water, especially fresh water, as in a lake or stream.

Subglacial. (a) Formed or accumulated in or by the bottom parts of a glacier or ice sheet; the term pertains, for example, to meltwater streams, till, and moraines. (b) Pertaining to the area immediately beneath a glacier, as subglacial eruption or subglacial drainage.

Subglacial till. Till deposited in or by the bottom parts of a glacier or ice sheet; types include lodgement till and subglacial flow till. Obsolete synonym: basal till.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Summit. (a)The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface. (b) A general term for the top, or highest area, of a landform, such as a hill, mountain, or tableland. It generally refers to a high interfluve area of relatively gentle slope that is flanked by steeper slopes, e.g., mountain fronts or tableland escarpments.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A shallow, open depression that is in unconsolidated materials and lacks a defined channel but can funnel overland or subsurface flow into a drainageway. Soils in swales tend to be more moist and thicker than the surrounding soils.

Swamp. An area of low, saturated ground intermittently or permanently covered with water and vegetated mainly by shrubs and trees; with or without the accumulation of peat.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion. In a practical sense in soil survey, terraces are considered to be generally flat alluvial areas above the 100-year flood stage.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe (mass movement). The lowest, generally curved margin of the displaced material of a landslide, most distant from the main scarp. Commonly, it has an irregular surface that has ripples and may be breached by radial cracks or gaps.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topography. The relative position and elevations of the natural or manmade features of an area that characterize the configuration of its surface.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Truncated soil. Soil that has had part or all of its upper horizon(s) removed by erosion, excavation, and other processes.

Undifferentiated group. A map unit made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them.

Upland (geomorphology). An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley. An elongated, relatively large, externally drained depression that has developed primarily through stream erosion or glacial activity.

Valley floor. A general term for the nearly level to gently sloping, lowest surface of a valley. Landforms include axial stream channels, flood plains, flood-plain steps, and low terraces.

Valley side. The sloping to very steep areas between the valley floor and summits of adjacent uplands. Scale, relief, and perspective may require use of closely related terms, such as hillslope and mountain slope. Well defined, steep valley sides have been called valley walls but should be called valley sides.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water (soil survey). A map unit consisting of open bodies of water, such as ponds, lakes, and reservoirs, that do not support rooted plants.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Waterway. (a) A general term for a channel, either natural (as a river) or artificial (as a canal), that conducts flowing water. (b) A navigable body or stretch of water available for passage; a watercourse.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters; involving essentially no transport of the altered material. The changes result in disintegration and decomposition of the material.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Utica and Boonville, New York)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average total snowfall
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*		*In*
UTICA:											
January----	29.0	13.9	21.4	57	-17	7	3.56	2.48	4.56	10	25.8
February---	31.4	15.7	23.6	58	-12	8	3.01	1.80	4.15	7	18.9
March------	41.0	24.6	32.8	75	-3	51	3.66	2.47	4.80	8	16.4
April------	54.2	35.6	44.9	82	17	195	3.62	2.28	4.82	8	3.9
May--------	67.6	46.5	57.1	89	30	530	3.89	2.26	5.25	8	0.1
June-------	75.9	55.2	65.6	92	39	767	4.05	2.29	5.72	8	.0
July-------	80.4	60.0	70.2	93	47	937	3.82	2.27	5.17	6	.0
August-----	78.3	58.6	68.4	92	43	881	3.62	2.28	4.85	6	.0
September--	69.9	50.7	60.3	88	31	610	4.45	2.86	5.70	7	.0
October----	57.9	40.1	49.0	80	22	294	3.38	2.31	4.27	7	.6
November---	45.3	31.4	38.3	72	10	87	4.01	2.76	5.23	10	9.7
December---	34.0	20.2	21.7	61	-9	14	3.85	2.52	4.96	9	20.8
Yearly:											
Average---	55.4	37.7	46.6	---	---	---	---	---	---	---	---
Extreme---	96	-27	---	94	-19	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,381	44.92	34.66	51.09	94	96.2
BOONVILLE:											
January----	24.5	7.7	16.1	50	-22	3	5.77	3.90	7.56	13	59.0
February---	27.4	9.9	18.6	51	-17	4	4.44	2.84	6.02	10	43.3
March------	36.4	19.4	27.9	67	-8	27	4.98	3.62	6.35	10	33.7
April------	49.9	31.6	40.7	77	11	129	4.59	2.77	6.28	9	9.8
May--------	63.5	43.4	53.4	84	27	423	4.52	2.48	6.45	9	.9
June-------	71.5	51.6	61.5	86	34	646	4.73	2.91	6.54	8	.0
July-------	75.7	56.3	66.0	88	41	807	3.96	2.62	5.20	7	.0
August-----	73.9	55.0	64.4	87	39	758	4.68	2.99	6.38	7	.0
September--	65.5	47.1	56.3	83	29	489	5.89	3.97	7.67	8	.0
October----	54.1	36.5	45.3	74	19	208	4.70	2.75	6.54	9	2.2
November---	41.0	27.1	34.1	65	5	50	5.66	4.52	6.82	11	21.0
December---	27.9	15.2	22.5	54	-14	6	5.76	3.63	7.65	12	46.4
Yearly:											
Average---	51.1	33.4	42.2	---	---	---	---	---	---	---	---
Extreme---	94	-31	---	89	-23	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,550	59.68	53.03	64.91	113	216.3

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-1990 at Utica and Boonville, New York)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
UTICA:			
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 16	May 3	May 14
2 years in 10 later than--	Apr. 13	Apr. 28	May 7
5 years in 10 later than--	Apr. 7	Apr. 19	May 5
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 17	Oct. 6	Sept. 26
2 years in 10 earlier than--	Oct. 23	Oct. 12	Oct. 1
5 years in 10 earlier than--	Nov. 2	Oct. 22	Oct. 11
BOONVILLE:			
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 30	May 9	June 4
2 years in 10 later than--	Apr. 26	May 5	May 28
5 years in 10 later than--	Apr. 19	Apr. 27	May 15
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 6	Sept. 24	Sept. 19
2 years in 10 earlier than--	Oct. 11	Sept. 29	Sept. 23
5 years in 10 earlier than--	Oct. 21	Oct. 9	Oct. 3

Table 3a.--Growing Season

(Recorded in the period 1951-2001 at Utica, New York, and 1950-2001 at Boonville, New York)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	*Days*	*Days*
UTICA:			
9 years in 10	194	157	137
8 years in 10	200	166	144
5 years in 10	211	182	158
2 years in 10	223	199	172
1 year in 10	228	207	179
BOONVILLE:			
9 years in 10	163	142	113
8 years in 10	171	149	121
5 years in 10	186	163	137
2 years in 10	202	177	153
1 year in 10	210	184	161

Table 3b.--Growing Season Dates

(Recorded in the period 1971-2000 at Utica, New York, and 1971-2002 at Boonville, New York)

Probability*	Beginning and ending dates and length of growing season for temperatures of--		
	24 °F or higher	28 °F or higher	32 °F or higher
UTICA:			
50 percent	4/7 to 11/1 208 days	4/18 to 10/18 183 days	5/1 to 10/8 160 days
BOONVILLE:			
50 percent	4/18 to 10/20 185 days	4/27 to 10/8 163 days	5/14 to 10/1 139 days

* The probability, expressed as a percent, that the growing season will occur between the beginning and ending dates.

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Udifluvents-Fluvaquents complex, frequently flooded	8,988	1.1
2	Hamlin silt loam	1,304	0.2
4	Wakeville silt loam, occasionally flooded	6,266	0.8
7	Wayland silt loam	7,359	0.9
9	Wenonah loam	1,604	0.2
10	Otego loam	731	*
12B	Herkimer channery silt loam, 3 to 8 percent slopes	1,913	0.2
12C	Herkimer channery silt loam, 8 to 15 percent slopes	201	*
13	Fluvaquents-Borosaprists complex	5,286	0.7
20	Pits, sand and gravel	1,145	0.1
21	Udorthents, refuse substratum	381	*
22	Udorthents, smoothed	7,816	1.0
23	Urban land	3,806	0.5
24A	Howard gravelly loam, 0 to 3 percent slopes	4,384	0.5
24B	Howard gravelly loam, 3 to 8 percent slopes	3,987	0.5
24C	Howard gravelly loam, 8 to 15 percent slopes	1,161	0.1
25	Pits, quarry	216	*
27A	Nicholville silt loam, 0 to 3 percent slopes	482	*
27B	Nicholville silt loam, 3 to 8 percent slopes	448	*
28A	Phelps silt loam, 0 to 3 percent slopes	3,595	0.4
28B	Phelps silt loam, 3 to 8 percent slopes	668	*
30	Fredon gravelly silt loam	5,524	0.7
31	Halsey gravelly loam	2,849	0.4
33A	Alton-Urban land complex, 0 to 3 percent slopes	4,778	0.6
33B	Alton-Urban land complex, 3 to 8 percent slopes	1,391	0.2
34D	Howard and Alton gravelly loams, 15 to 25 percent slopes	3,252	0.4
34E	Howard and Alton gravelly loams, 25 to 45 percent slopes	3,406	0.4
35A	Unadilla silt loam, 0 to 3 percent slopes	356	*
35B	Unadilla silt loam, 3 to 8 percent slopes	1,004	0.1
35C	Unadilla silt loam, 8 to 15 percent slopes	229	*
36B	Salmon silt loam, 2 to 8 percent slopes	741	*
38A	Chenango gravelly silt loam, 0 to 3 percent slopes	2,215	0.3
38B	Chenango gravelly silt loam, 3 to 8 percent slopes	5,142	0.6
38C	Chenango gravelly silt loam, 8 to 15 percent slopes	2,838	0.4
38D	Chenango gravelly silt loam, 15 to 25 percent slopes	1,270	0.2
38E	Chenango gravelly silt loam, 25 to 45 percent slopes	464	*
39A	Knickerbocker fine sandy loam, 0 to 3 percent slopes	2,208	0.3
39B	Knickerbocker fine sandy loam, 3 to 8 percent slopes	2,046	0.3
39C	Knickerbocker fine sandy loam, 8 to 15 percent slopes	925	0.1
41	Niagara fine sandy loam	770	*
42	Castile gravelly loam	3,302	0.4
43	Jebavy sand	5,057	0.6
46A	Colosse gravelly loam, 0 to 3 percent slopes	226	*
46B	Colosse gravelly loam, 3 to 8 percent slopes	154	*
46C	Colosse gravelly loam, 8 to 15 percent slopes	15	*
46D	Colosse gravelly loam, 15 to 25 percent slopes	24	*
47A	Scio silt loam, 0 to 3 percent slopes	562	*
47B	Scio silt loam, 3 to 8 percent slopes	665	*
50	Wareham loamy fine sand	6,924	0.9
54D	Colton gravelly sandy loam, 15 to 35 percent slopes	362	*
55A	Adams loamy sand, 0 to 3 percent slopes	13,029	1.6
55B	Adams loamy sand, 3 to 8 percent slopes	10,385	1.3
55C	Adams loamy sand, 8 to 15 percent slopes	14,582	1.8
55D	Adams loamy sand, 15 to 25 percent slopes	861	0.1
55E	Adams loamy sand, 25 to 45 percent slopes	10,231	1.3
56B	Becket-Skerry complex, 3 to 8 percent slopes, very bouldery	1,774	0.2
56C	Becket-Skerry complex, 8 to 15 percent slopes, very bouldery	4,184	0.5
57A	Croghan loamy fine sand, 0 to 3 percent slopes	3,098	0.4
57B	Croghan loamy fine sand, 3 to 8 percent slopes	1,928	0.2
60B	Adirondack fine sandy loam, 2 to 8 percent slopes, very bouldery	2,652	0.3
61A	Schoharie silt loam, 0 to 3 percent slopes	164	*
61B	Schoharie silt loam, 3 to 8 percent slopes	392	*

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
61C	Schoharie silt loam, 8 to 15 percent slopes	267	*
61E	Schoharie silt loam, 20 to 40 percent slopes	281	*
62C	Becket-Tunbridge complex, 3 to 15 percent slopes, very bouldery	1,036	0.1
62D	Becket-Tunbridge complex, 15 to 35 percent slopes, very bouldery	1,213	0.2
63A	Wallington very fine sandy loam, 0 to 3 percent slopes	562	*
63B	Wallington very fine sandy loam, 3 to 8 percent slopes	204	*
64A	Rhinebeck silt loam, 0 to 3 percent slopes	3,810	0.5
64B	Rhinebeck silt loam, 3 to 8 percent slopes	954	0.1
65F	Tunbridge-Lyman complex, 35 to 60 percent slopes, very rocky	355	*
68	Wakeville silt loam, rarely flooded	2,267	0.3
72	Canandaigua silt loam	7,512	0.9
74B	Berkshire fine sandy loam, 3 to 8 percent slopes	4,259	0.5
74C	Berkshire fine sandy loam, 8 to 15 percent slopes	661	*
75	Lamson fine sandy loam	6,484	0.8
76	Niagara silt loam	3,000	0.4
77A	Collamer silt loam, 0 to 3 percent slopes	203	*
77B	Collamer silt loam, 3 to 8 percent slopes	434	*
77C	Collamer silt loam, 8 to 15 percent slopes	394	*
77D	Collamer silt loam, 15 to 25 percent slopes	395	*
78A	Arkport fine sandy loam, 0 to 3 percent slopes	421	*
78B	Arkport fine sandy loam, 3 to 8 percent slopes	450	*
78C	Arkport fine sandy loam, 8 to 15 percent slopes	123	*
79A	Roundabout silt loam, 0 to 3 percent slopes	644	*
79B	Roundabout silt loam, 3 to 8 percent slopes	118	*
81A	Covert loamy sand, 0 to 3 percent slopes	3,538	0.4
81B	Covert loamy sand, 3 to 8 percent slopes	2,125	0.3
90A	Windsor loamy fine sand, 0 to 3 percent slopes	4,260	0.5
90B	Windsor loamy fine sand, 3 to 8 percent slopes	8,723	1.1
90C	Windsor loamy fine sand, 8 to 15 percent slopes	3,625	0.4
90D	Windsor loamy fine sand, 15 to 25 percent slopes	1,415	0.2
90E	Windsor loamy fine sand, 25 to 55 percent slopes	1,314	0.2
92	Napoleon peat	352	*
94	Naumburg loamy sand	7,498	0.9
95	Carlisle muck	3,610	0.4
99	Greenwood peat	1,201	0.1
102B	Honeoye silt loam, 3 to 8 percent slopes	10,727	1.3
102C	Honeoye silt loam, 8 to 15 percent slopes	7,532	0.9
102D	Honeoye silt loam, 15 to 25 percent slopes	3,483	0.4
103B	Honeoye-Urban land complex, 2 to 8 percent slopes	2,572	0.3
104E	Honeoye and Cazenovia silt loams, 25 to 45 percent slopes	3,529	0.4
109B	Cazenovia silt loam, 3 to 8 percent slopes	17,726	2.2
109C	Cazenovia silt loam, 8 to 15 percent slopes	4,920	0.6
109D	Cazenovia silt loam, 15 to 25 percent slopes	1,642	0.2
111B	Lansing silt loam, 3 to 8 percent slopes	5,625	0.7
111C	Lansing silt loam, 8 to 15 percent slopes	4,948	0.6
111D	Lansing silt loam, 15 to 25 percent slopes	4,196	0.5
111E	Lansing silt loam, 25 to 45 percent slopes	3,412	0.4
113A	Camroden silt loam, 0 to 3 percent slopes	1,285	0.2
113B	Camroden silt loam, 3 to 8 percent slopes	16,508	2.0
113C	Camroden silt loam, 8 to 15 percent slopes	574	*
114B	Pinckney silt loam, 3 to 8 percent slopes	12,239	1.5
114C	Pinckney silt loam, 8 to 15 percent slopes	3,904	0.5
114D	Pinckney silt loam, 15 to 25 percent slopes	930	0.1
115B	Chadakoin silt loam, 3 to 8 percent slopes	6,790	0.8
115C	Chadakoin silt loam, 8 to 15 percent slopes	4,575	0.6
115D	Chadakoin silt loam, 15 to 25 percent slopes	2,856	0.4
115E	Chadakoin silt loam, 25 to 45 percent slopes	1,170	0.1
117A	Pittsfield loam, 0 to 3 percent slopes	179	*
117B	Pittsfield loam, 3 to 8 percent slopes	4,962	0.6
117C	Pittsfield loam, 8 to 15 percent slopes	1,115	0.1
117D	Pittsfield loam, 15 to 25 percent slopes	1,364	0.2
117E	Pittsfield loam, 25 to 45 percent slopes	994	0.1

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
119B	Pyrities loam, 3 to 8 percent slopes	5,655	0.7
119C	Pyrities loam, 8 to 15 percent slopes	4,086	0.5
119D	Pyrities loam, 15 to 25 percent slopes	1,864	0.2
119E	Pyrities loam, 25 to 45 percent slopes	574	*
120C	Pyrities loam, rolling, very bouldery	1,348	0.2
121B	Worth loam, 3 to 8 percent slopes, stony	5,009	0.6
121C	Worth loam, 8 to 15 percent slopes, stony	3,029	0.4
121D	Worth loam, 15 to 25 percent slopes, stony	529	*
121E	Worth loam, 25 to 45 percent slopes, stony	16	*
126A	Lima gravelly silt loam, 0 to 3 percent slopes	5,332	0.7
126B	Lima gravelly silt loam, 3 to 8 percent slopes	19,310	2.4
126C	Lima gravelly silt loam, 8 to 15 percent slopes	198	*
133B	Empeyville loam, 3 to 8 percent slopes, stony	3,705	0.5
133C	Empeyville loam, 8 to 15 percent slopes, stony	325	*
136A	Kendaia silt loam, 0 to 3 percent slopes	11,518	1.4
136B	Kendaia silt loam, 3 to 8 percent slopes	25,439	3.2
144A	Westbury silt loam, 0 to 3 percent slopes, stony	319	*
144B	Westbury silt loam, 3 to 8 percent slopes, stony	4,517	0.6
146	Lyons silt loam	11,256	1.4
150	Tughill mucky silt loam, stony	4,053	0.5
151	Chippewa silt loam	474	*
152B	Farmington silt loam, 2 to 8 percent slopes	890	0.1
153C	Farmington-Rock outcrop complex, 8 to 15 percent slopes	385	*
153D	Farmington-Rock outcrop complex, 15 to 25 percent slopes	317	*
155	Dannemora gravelly fine sandy loam, stony	2,232	0.3
156B	Lairdsville silt loam, 3 to 8 percent slopes	272	*
156C	Lairdsville silt loam, 8 to 15 percent slopes	277	*
156E	Lairdsville silt loam, 25 to 45 percent slopes	258	*
162B	Ischua silt loam, 3 to 8 percent slopes	129	*
162C	Ischua silt loam, 8 to 15 percent slopes	929	0.1
162D	Ischua silt loam, 15 to 25 percent slopes	447	*
168B	Manlius channery silt loam, 3 to 8 percent slopes	1,327	0.2
168C	Manlius channery silt loam, 8 to 15 percent slopes	1,595	0.2
168D	Manlius channery silt loam, 15 to 25 percent slopes	1,631	0.2
168E	Manlius channery silt loam, 25 to 45 percent slopes	3,304	0.4
173B	Mongaup silt loam, 3 to 8 percent slopes	603	*
173C	Mongaup silt loam, 8 to 15 percent slopes	750	*
173E	Mongaup silt loam, 25 to 45 percent slopes	2,395	0.3
176B	Nellis loam, 3 to 8 percent slopes	4,246	0.5
176C	Nellis loam, 8 to 15 percent slopes	1,993	0.2
176D	Nellis loam, 15 to 25 percent slopes	1,280	0.2
195	Palms muck, drained	201	*
200B	Bice fine sandy loam, 3 to 8 percent slopes	8,046	1.0
200C	Bice fine sandy loam, 8 to 15 percent slopes	9,046	1.1
200D	Bice fine sandy loam, 15 to 25 percent slopes	4,235	0.5
200E	Bice fine sandy loam, 25 to 50 percent slopes	4,917	0.6
212	Adrian muck	1,641	0.2
221B	Kalurah silt loam, 3 to 8 percent slopes	6,245	0.8
221C	Kalurah silt loam, 8 to 15 percent slopes	4,066	0.5
221D	Kalurah silt loam, 15 to 25 percent slopes	1,243	0.2
221E	Kalurah silt loam, 25 to 45 percent slopes	1,424	0.2
223A	Malone loam, 0 to 3 percent slopes	2,116	0.3
223B	Malone loam, 3 to 8 percent slopes	11,693	1.5
223C	Malone loam, 8 to 15 percent slopes	587	*
256D	Becket fine sandy loam, 15 to 25 percent slopes, very bouldery	248	*
260A	Ovid silt loam, 0 to 3 percent slopes	1,136	0.1
260B	Ovid silt loam, 3 to 8 percent slopes	1,261	0.2
267B	Greene silt loam, 3 to 8 percent slopes	2,027	0.3
267C	Greene silt loam, 8 to 15 percent slopes	322	*
269	Greene-Tuller complex	377	*
295	Carlisle muck, drained	550	*
350A	Alton gravelly loam, 0 to 3 percent slopes	7,779	1.0

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
350B	Alton gravelly loam, 3 to 8 percent slopes	12,938	1.6
350C	Alton gravelly loam, 8 to 15 percent slopes	3,277	0.4
355B	Arnot channery silt loam, 3 to 8 percent slopes	448	*
372A	Appleton silt loam, 0 to 3 percent slopes	7,398	0.9
372B	Appleton silt loam, 3 to 8 percent slopes	2,678	0.3
395	Palms muck	9,308	1.2
397	Wonsqueak muck	1,384	0.2
398	Dawson peat	2,683	0.3
413B	Venango silt loam, 2 to 8 percent slopes	3,756	0.5
413C	Venango silt loam, 8 to 15 percent slopes	1,715	0.2
414B	Mardin loam, 3 to 8 percent slopes	349	*
414C	Mardin loam, 8 to 15 percent slopes	1,359	0.2
414D	Mardin loam, 15 to 25 percent slopes	2,062	0.3
461	Marcy silt loam	6,901	0.9
462	Runeberg loam	4,760	0.6
515A	Galway silt loam, 0 to 3 percent slopes	154	*
515B	Galway silt loam, 3 to 8 percent slopes	942	0.1
515C	Galway silt loam, 8 to 15 percent slopes	641	*
565B	Aurora silt loam, 3 to 8 percent slopes	3,102	0.4
565C	Aurora silt loam, 8 to 15 percent slopes	781	*
565D	Aurora silt loam, 15 to 25 percent slopes	784	*
565E	Aurora silt loam, 25 to 35 percent slopes	356	*
582A	Amenia silt loam, 0 to 3 percent slopes	727	*
582B	Amenia silt loam, 3 to 8 percent slopes	4,463	0.6
747A	Manheim silt loam, 0 to 3 percent slopes	203	*
747B	Manheim silt loam, 3 to 8 percent slopes	635	*
747C	Manheim silt loam, 8 to 15 percent slopes	50	*
750B	Minoa fine sandy loam, 0 to 6 percent slopes	5,624	0.7
790A	Conesus silt loam, 0 to 3 percent slopes	747	*
790B	Conesus silt loam, 3 to 8 percent slopes	10,333	1.3
790C	Conesus silt loam, 8 to 15 percent slopes	4,177	0.5
801B	Alton gravelly loam, 3 to 8 percent slopes, cool	528	*
801C	Alton gravelly loam, 8 to 15 percent slopes, cool	514	*
802D	Howard and Alton gravelly loams, 15 to 25 percent slopes, cool	316	*
802E	Howard and Alton gravelly loams, 25 to 45 percent slopes, cool	845	0.1
804	Chippewa silt loam, stony	6,347	0.8
807A	Manheim silt loam, 0 to 3 percent slopes, cool	118	*
807B	Manheim silt loam, 3 to 8 percent slopes, cool	1,845	0.2
807C	Manheim silt loam, 8 to 15 percent slopes, cool	578	*
811B	Empeyville loam, 3 to 8 percent slopes, stony, warm	8,144	1.0
811C	Empeyville loam, 8 to 15 percent slopes, stony, warm	951	0.1
813B	Gretor silt loam, 3 to 8 percent slopes	1,770	0.2
813C	Gretor silt loam, 8 to 15 percent slopes	299	*
814	Gretor-Torull complex	452	*
816B	Herkimer channery silt loam, 3 to 8 percent slopes, cool	55	*
818B	Kalurah silt loam, 3 to 8 percent slopes, warm	4,101	0.5
818C	Kalurah silt loam, 8 to 15 percent slopes, warm	1,732	0.2
818D	Kalurah silt loam, 15 to 25 percent slopes, warm	540	*
818E	Kalurah silt loam, 25 to 45 percent slopes, warm	427	*
819A	Kendaia silt loam, 0 to 3 percent slopes, cool	148	*
819B	Kendaia silt loam, 3 to 8 percent slopes, cool	2,173	0.3
823A	Malone loam, 0 to 3 percent slopes, warm	748	*
823B	Malone loam, 3 to 8 percent slopes, warm	6,679	0.8
823C	Malone loam, 8 to 15 percent slopes, warm	425	*
825B	Pinckney silt loam, 3 to 8 percent slopes, warm	2,060	0.3
825C	Pinckney silt loam, 8 to 15 percent slopes, warm	600	*
825D	Pinckney silt loam, 15 to 25 percent slopes, warm	264	*
831	Tughill mucky silt loam, stony, warm	989	0.1
833A	Westbury silt loam, 0 to 3 percent slopes, stony, warm	1,064	0.1
833B	Westbury silt loam, 3 to 8 percent slopes, stony, warm	13,378	1.7
838B	Worth loam, 3 to 8 percent slopes, stony, warm	10,859	1.3
838C	Worth loam, 8 to 15 percent slopes, stony, warm	9,950	1.2

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
838D	Worth loam, 15 to 25 percent slopes, stony, warm	1,212	0.2
838E	Worth loam, 25 to 45 percent slopes, stony, warm	307	*
842B	Farmington silt loam, 2 to 8 percent slopes, cool	389	*
843D	Farmington-Rock outcrop complex, 15 to 25 percent slopes, cool	21	*
845A	Galway silt loam, 0 to 3 percent slopes, cool	207	*
845B	Galway silt loam, 3 to 8 percent slopes, cool	378	*
845C	Galway silt loam, 8 to 15 percent slopes, cool	63	*
858A	Chenango gravelly fine sandy loam, 0 to 3 percent slopes, red substratum	906	0.1
858B	Chenango gravelly fine sandy loam, 3 to 8 percent slopes, red substratum	2,551	0.3
858C	Chenango gravelly fine sandy loam, 8 to 15 percent slopes, red substratum	2,555	0.3
858D	Chenango gravelly fine sandy loam, 15 to 25 percent slopes, red substratum	893	0.1
858E	Chenango gravelly fine sandy loam, 25 to 45 percent slopes, red substratum	688	*
982	Wallkill silt loam	404	*
W	Water	31,531	3.9
	Total	805,900	100.0

* Less than 0.1 percent.

Table 5.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only where it is drained, the need for drainage is indicated in parentheses after the soil name)

Map symbol	Soil name
2	Hamlin silt loam
4	Wakeville silt loam, occasionally flooded (where drained)
9	Wenonah loam
10	Otego loam
12B	Herkimer channery silt loam, 3 to 8 percent slopes
24A	Howard gravelly loam, 0 to 3 percent slopes
24B	Howard gravelly loam, 3 to 8 percent slopes
27A	Nicholville silt loam, 0 to 3 percent slopes
27B	Nicholville silt loam, 3 to 8 percent slopes
28A	Phelps silt loam, 0 to 3 percent slopes
28B	Phelps silt loam, 3 to 8 percent slopes
30	Fredon gravelly silt loam (where drained)
35A	Unadilla silt loam, 0 to 3 percent slopes
35B	Unadilla silt loam, 3 to 8 percent slopes
36B	Salmon silt loam, 2 to 8 percent slopes
38A	Chenango gravelly silt loam, 0 to 3 percent slopes
38B	Chenango gravelly silt loam, 3 to 8 percent slopes
39A	Knickerbocker fine sandy loam, 0 to 3 percent slopes
39B	Knickerbocker fine sandy loam, 3 to 8 percent slopes
41	Niagara fine sandy loam (where drained)
42	Castile gravelly loam
47A	Scio silt loam, 0 to 3 percent slopes
47B	Scio silt loam, 3 to 8 percent slopes
61A	Schoharie silt loam, 0 to 3 percent slopes
61B	Schoharie silt loam, 3 to 8 percent slopes
63A	Wallington very fine sandy loam, 0 to 3 percent slopes (where drained)
63B	Wallington very fine sandy loam, 3 to 8 percent slopes (where drained)
64A	Rhinebeck silt loam, 0 to 3 percent slopes (where drained)
64B	Rhinebeck silt loam, 3 to 8 percent slopes (where drained)
68	Wakeville silt loam, rarely flooded (where drained)
74B	Berkshire fine sandy loam, 3 to 8 percent slopes
76	Niagara silt loam (where drained)
77A	Collamer silt loam, 0 to 3 percent slopes
77B	Collamer silt loam, 3 to 8 percent slopes
78A	Arkport fine sandy loam, 0 to 3 percent slopes
78B	Arkport fine sandy loam, 3 to 8 percent slopes
79A	Roundabout silt loam, 0 to 3 percent slopes (where drained)
79B	Roundabout silt loam, 3 to 8 percent slopes (where drained)
102B	Honeoye silt loam, 3 to 8 percent slopes
109B	Cazenovia silt loam, 3 to 8 percent slopes
111B	Lansing silt loam, 3 to 8 percent slopes
114B	Pinckney silt loam, 3 to 8 percent slopes
115B	Chadakoin silt loam, 3 to 8 percent slopes
117A	Pittsfield loam, 0 to 3 percent slopes
117B	Pittsfield loam, 3 to 8 percent slopes
119B	Pyrities loam, 3 to 8 percent slopes
121B	Worth loam, 3 to 8 percent slopes, stony
126A	Lima gravelly silt loam, 0 to 3 percent slopes
126B	Lima gravelly silt loam, 3 to 8 percent slopes
136A	Kendaia silt loam, 0 to 3 percent slopes (where drained)
136B	Kendaia silt loam, 3 to 8 percent slopes (where drained)
162B	Ischua silt loam, 3 to 8 percent slopes
173B	Mongaup silt loam, 3 to 8 percent slopes
176B	Nellis loam, 3 to 8 percent slopes
200B	Bice fine sandy loam, 3 to 8 percent slopes
221B	Kalurah silt loam, 3 to 8 percent slopes
223A	Malone loam, 0 to 3 percent slopes (where drained)
223B	Malone loam, 3 to 8 percent slopes (where drained)

Table 5.--Prime Farmland--Continued

Map symbol	Soil name
260A	Ovid silt loam, 0 to 3 percent slopes (where drained)
260B	Ovid silt loam, 3 to 8 percent slopes (where drained)
267B	Greene silt loam, 3 to 8 percent slopes (where drained)
350A	Alton gravelly loam, 0 to 3 percent slopes
350B	Alton gravelly loam, 3 to 8 percent slopes
372A	Appleton silt loam, 0 to 3 percent slopes (where drained)
372B	Appleton silt loam, 3 to 8 percent slopes (where drained)
515A	Galway silt loam, 0 to 3 percent slopes
515B	Galway silt loam, 3 to 8 percent slopes
582A	Amenia silt loam, 0 to 3 percent slopes
582B	Amenia silt loam, 3 to 8 percent slopes
747A	Manheim silt loam, 0 to 3 percent slopes (where drained)
747B	Manheim silt loam, 3 to 8 percent slopes (where drained)
750B	Minoa fine sandy loam, 0 to 6 percent slopes (where drained)
790A	Conesus silt loam, 0 to 3 percent slopes
790B	Conesus silt loam, 3 to 8 percent slopes
801B	Alton gravelly loam, 3 to 8 percent slopes, cool
807A	Manheim silt loam, 0 to 3 percent slopes, cool (where drained)
807B	Manheim silt loam, 3 to 8 percent slopes, cool (where drained)
813B	Gretor silt loam, 3 to 8 percent slopes (where drained)
816B	Herkimer channery silt loam, 3 to 8 percent slopes, cool
818B	Kalurah silt loam, 3 to 8 percent slopes, warm
819A	Kendaia silt loam, 0 to 3 percent slopes, cool (where drained)
819B	Kendaia silt loam, 3 to 8 percent slopes, cool (where drained)
823A	Malone loam, 0 to 3 percent slopes, warm (where drained)
823B	Malone loam, 3 to 8 percent slopes, warm (where drained)
825B	Pinckney silt loam, 3 to 8 percent slopes, warm
838B	Worth loam, 3 to 8 percent slopes, stony, warm
845A	Galway silt loam, 0 to 3 percent slopes, cool
845B	Galway silt loam, 3 to 8 percent slopes, cool
858A	Chenango gravelly fine sandy loam, 0 to 3 percent slopes, red substratum
858B	Chenango gravelly fine sandy loam, 3 to 8 percent slopes, red substratum

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture

(Yields are those that can be expected under a high level of management. The land capability and the yields are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or that the crop generally is not grown on the soil. "AUM" is defined in the Glossary)

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
1:						
Udifluvents, frequently flooded	5w	---	---	---	---	---
Fluvaquents, frequently flooded, warm	5w	---	---	---	---	---
2:						
Hamlin	1	6.00	150.00	25.00	5.50	7.50
4:						
Wakeville, occasionally flooded	3w	---	85.00	14.00	3.00	5.00
7:						
Wayland	5w	---	---	---	---	---
9:						
Wenonah	1	5.50	150.00	25.00	5.00	7.50
10:						
Otego	2w	5.50	140.00	23.00	5.00	6.50
12B:						
Herkimer	2w	5.50	135.00	23.00	5.00	8.50
12C:						
Herkimer	3e	5.00	125.00	22.00	4.50	8.50
13:						
Fluvaquents, frequently flooded, cool	5w	---	---	---	---	---
Borosaprists	5w	---	---	---	---	---
20:						
Pits, sand and gravel.						
21:						
Udorthents, refuse substratum.						
22:						
Udorthents, smoothed.						
23:						
Urban land.						
24A:						
Howard	2s	5.50	140.00	23.00	4.50	6.50
24B:						
Howard	2s	5.50	140.00	23.00	4.50	6.50
24C:						
Howard	3e	4.50	125.00	21.00	3.50	6.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
25:						
Pits, quarry.						
27A:						
Nicholville	2w	5.00	135.00	23.00	4.50	7.00
27B:						
Nicholville	2e	5.00	135.00	23.00	4.50	7.00
28A:						
Phelps	2w	5.00	135.00	22.00	4.50	6.00
28B:						
Phelps	2e	5.00	135.00	22.00	4.50	6.00
30:						
Fredon, somewhat poorly drained	3w	---	95.00	18.00	3.00	4.50
Fredon, poorly drained	4w	---	75.00	12.00	2.50	3.00
31:						
Halsey	5w	---	---	---	---	---
33A:						
Alton.						
Urban land.						
33B:						
Alton.						
Urban land.						
34D:						
Howard	4e	4.00	80.00	14.00	3.00	6.00
Alton	4e	4.00	85.00	14.00	3.00	6.00
34E:						
Howard	7e	---	---	---	---	---
Alton	7e	---	---	---	---	---
35A:						
Unadilla	1	6.00	145.00	24.00	5.50	7.00
35B:						
Unadilla	2e	6.00	145.00	24.00	5.50	7.00
35C:						
Unadilla	3e	5.50	120.00	22.00	4.50	6.50
36B:						
Salmon	2e	5.50	140.00	23.00	5.00	7.00
38A:						
Chenango	2s	5.50	135.00	23.00	3.50	8.50
38B:						
Chenango	2s	5.50	135.00	23.00	5.00	8.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
38C:						
Chenango----------------	3e	4.50	110.00	18.00	3.50	8.50
38D:						
Chenango----------------	4e	4.00	85.00	14.00	3.00	6.00
38E:						
Chenango----------------	7e	---	---	---	---	---
39A:						
Knickerbocker-----------	2s	4.50	90.00	18.00	3.00	6.50
39B:						
Knickerbocker-----------	2s	4.50	90.00	18.00	3.00	6.50
39C:						
Knickerbocker-----------	3e	4.00	85.00	16.00	3.00	6.00
41:						
Niagara-----------------	3w	---	95.00	16.00	4.00	5.50
42:						
Castile-----------------	2w	5.50	130.00	22.00	4.50	7.50
43:						
Jebavy------------------	5w	---	---	---	---	---
46A:						
Colosse-----------------	3s	4.00	100.00	18.00	3.50	6.50
46B:						
Colosse-----------------	3s	4.00	100.00	18.00	3.50	6.50
46C:						
Colosse-----------------	3e	3.50	90.00	17.00	3.50	6.50
46D:						
Colosse-----------------	4e	3.00	70.00	13.00	3.00	5.50
47A:						
Scio--------------------	2w	5.50	140.00	23.00	5.00	7.50
47B:						
Scio--------------------	2e	5.50	140.00	23.00	5.00	7.50
50:						
Wareham-----------------	4w	---	---	---	---	3.00
54D:						
Colton------------------	6e	3.00	60.00	10.00	1.50	3.00
55A:						
Adams-------------------	3s	3.50	65.00	10.00	2.00	4.00
55B:						
Adams-------------------	3s	3.50	65.00	10.00	2.00	4.00
55C:						
Adams-------------------	4e	3.50	60.00	10.00	2.00	3.00
55D:						
Adams-------------------	6e	3.00	55.00	10.00	2.00	2.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
55E:						
Adams	7e	---	---	---	---	---
56B:						
Becket, very bouldery	6s	---	---	---	---	4.50
Skerry, very bouldery	6s	---	---	---	---	4.50
56C:						
Becket, very bouldery	6s	---	---	---	---	4.50
Skerry, very bouldery	6s	---	---	---	---	4.50
57A:						
Croghan	2w	3.50	70.00	14.00	3.00	4.00
57B:						
Croghan	2w	3.50	70.00	14.00	3.00	4.00
60B:						
Adirondack, somewhat poorly drained, very bouldery	6s	---	---	---	---	3.50
Adirondack, poorly drained, very bouldery	6s	---	---	---	---	2.00
61A:						
Schoharie	2w	5.00	120.00	22.00	4.00	7.00
61B:						
Schoharie	2e	5.00	120.00	22.00	4.00	7.00
61C:						
Schoharie	3e	4.50	100.00	20.00	3.50	6.50
61E:						
Schoharie	7e	---	---	---	---	---
62C:						
Becket, very bouldery	6s	---	---	---	---	4.50
Tunbridge, very bouldery	6s	---	---	---	---	3.00
62D:						
Becket, very bouldery	7s	---	---	---	---	3.50
Tunbridge, very bouldery	7s	---	---	---	---	3.00
63A:						
Wallington	3w	---	90.00	16.00	3.00	5.50
63B:						
Wallington	3w	---	90.00	16.00	3.00	5.50
64A:						
Rhinebeck	3w	---	95.00	16.00	4.00	5.50
64B:						
Rhinebeck	3w	---	95.00	16.00	4.00	5.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
65F:						
Tunbridge, very bouldery	7s	---	---	---	---	---
Lyman-------------------	7s	---	---	---	---	---
68:						
Wakeville, rarely flooded----------------	3w	---	85.00	14.00	3.00	5.50
72:						
Canandaigua-------------	4w	---	---	---	---	4.00
74B:						
Berkshire---------------	2e	5.00	110.00	22.00	5.00	7.00
74C:						
Berkshire---------------	3e	4.50	100.00	20.00	5.00	6.50
75:						
Lamson------------------	4w	---	---	---	---	4.50
76:						
Niagara-----------------	3w	---	95.00	16.00	4.00	5.50
77A:						
Collamer----------------	2w	5.00	130.00	22.00	4.50	7.00
77B:						
Collamer----------------	2e	5.00	130.00	22.00	4.50	7.00
77C:						
Collamer----------------	3e	4.50	110.00	20.00	4.00	6.50
77D:						
Collamer----------------	4e	4.00	80.00	16.00	3.50	5.50
78A:						
Arkport-----------------	2s	5.00	105.00	21.00	5.50	6.50
78B:						
Arkport-----------------	2s	5.00	105.00	21.00	5.50	6.50
78C:						
Arkport-----------------	3e	4.50	95.00	18.00	5.00	6.00
79A:						
Roundabout--------------	3w	---	100.00	18.00	4.00	5.50
79B:						
Roundabout--------------	3w	---	100.00	18.00	4.00	5.50
81A:						
Covert------------------	2w	3.50	70.00	14.00	3.00	4.00
81B:						
Covert------------------	2w	3.50	70.00	14.00	3.00	4.00
90A:						
Windsor-----------------	3s	3.00	65.00	12.00	2.50	4.00
90B:						
Windsor-----------------	3s	3.00	65.00	12.00	2.50	4.00

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
90C:						
Windsor-----------------	4e	2.50	60.00	10.00	2.50	3.50
90D:						
Windsor-----------------	6e	2.00	55.00	10.00	2.00	3.00
90E:						
Windsor-----------------	7e	---	---	---	---	---
92:						
Napoleon----------------	5w	---	---	---	---	---
94:						
Naumburg, somewhat poorly drained---------	3w	---	70.00	11.00	2.50	3.50
Naumburg, poorly drained	4w	---	---	---	---	3.00
95:						
Carlisle----------------	5w	---	---	---	---	---
99:						
Greenwood---------------	5w	---	---	---	---	---
102B:						
Honeoye-----------------	2e	6.00	140.00	23.00	5.00	7.50
102C:						
Honeoye-----------------	3e	5.50	125.00	21.00	5.00	7.00
102D:						
Honeoye-----------------	4e	5.00	105.00	18.00	4.00	6.50
103B:						
Honeoye.						
Urban land.						
104E:						
Honeoye-----------------	7e	---	---	---	---	---
Cazenovia---------------	7e	---	---	---	---	---
109B:						
Cazenovia---------------	2e	5.50	120.00	23.00	5.00	7.50
109C:						
Cazenovia---------------	3e	5.00	100.00	21.00	4.50	7.00
109D:						
Cazenovia---------------	4e	4.00	80.00	16.00	4.00	6.00
111B:						
Lansing-----------------	2e	6.00	140.00	23.00	5.00	7.00
111C:						
Lansing-----------------	3e	5.50	125.00	21.00	5.00	7.00
111D:						
Lansing-----------------	4e	5.00	105.00	18.00	4.00	6.00

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
111E:						
Lansing-----------------	7e	---	---	---	---	---
113A:						
Camroden----------------	3w	---	90.00	16.00	3.50	6.00
113B:						
Camroden----------------	3w	---	95.00	16.00	3.50	6.00
113C:						
Camroden----------------	3e	---	85.00	15.00	3.00	5.50
114B:						
Pinckney----------------	2e	4.50	110.00	19.00	4.50	6.50
114C:						
Pinckney----------------	3e	4.00	100.00	17.00	4.00	6.00
114D:						
Pinckney----------------	4e	3.50	80.00	14.00	3.50	5.50
115B:						
Chadakoin---------------	2e	5.00	110.00	22.00	5.50	7.00
115C:						
Chadakoin---------------	3e	4.50	95.00	16.00	3.50	7.00
115D:						
Chadakoin---------------	4e	3.50	70.00	12.00	3.00	6.50
115E:						
Chadakoin---------------	7e	---	---	---	---	---
117A:						
Pittsfield--------------	1	5.00	120.00	24.00	5.00	7.00
117B:						
Pittsfield--------------	2e	5.00	120.00	24.00	5.00	7.00
117C:						
Pittsfield--------------	3e	4.50	110.00	22.00	5.00	6.50
117D:						
Pittsfield--------------	4e	4.00	80.00	18.00	4.00	6.00
117E:						
Pittsfield--------------	7e	---	---	---	---	---
119B:						
Pyrities----------------	2e	5.00	120.00	24.00	4.50	6.50
119C:						
Pyrities----------------	3e	4.50	100.00	21.00	4.00	6.00
119D:						
Pyrities----------------	4e	4.00	75.00	18.00	3.50	5.50
119E:						
Pyrities----------------	7e	---	---	---	---	---

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
120C:						
Pyrities, rolling, very bouldery	6s	---	---	---	---	---
121B:						
Worth	2e	4.00	90.00	18.00	4.00	6.50
121C:						
Worth	3e	3.50	80.00	16.00	3.50	6.00
121D:						
Worth	4e	3.00	65.00	12.00	3.00	5.50
121E:						
Worth	7e	---	---	---	---	---
126A:						
Lima	2w	5.50	140.00	23.00	5.00	7.00
126B:						
Lima	2e	5.50	140.00	23.00	5.00	7.00
126C:						
Lima	3e	5.00	125.00	21.00	4.50	7.00
133B:						
Empeyville	2w	3.00	85.00	17.00	3.00	6.00
133C:						
Empeyville	3e	3.00	75.00	15.00	2.50	5.50
136A:						
Kendaia	3w	---	100.00	18.00	4.00	6.50
136B:						
Kendaia	3w	---	100.00	18.00	4.00	6.50
144A:						
Westbury	3w	---	90.00	14.00	3.50	5.50
144B:						
Westbury	3w	---	90.00	14.00	3.50	5.50
146:						
Lyons	5w	---	---	---	---	---
150:						
Tughill, stony	5w	---	---	---	---	---
151:						
Chippewa	5w	---	---	---	---	---
152B:						
Farmington	3s	---	100.00	17.00	4.00	5.00
153C:						
Farmington	6s	---	---	---	---	3.50
Rock outcrop	8	---	---	---	---	---
153D:						
Farmington	6s	---	---	---	---	3.00
Rock outcrop	8	---	---	---	---	---

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
155:						
Dannemora, stony	4w	---	---	---	---	3.00
156B:						
Lairdsville, well drained	2e	4.50	110.00	22.00	4.50	6.50
156C:						
Lairdsville, well drained	3e	4.00	90.00	20.00	4.00	6.00
156E:						
Lairdsville, well drained	7e	---	---	---	---	---
162B:						
Ischua	2e	4.00	90.00	17.00	3.50	5.00
162C:						
Ischua	3e	3.50	80.00	15.00	3.00	5.00
162D:						
Ischua	4e	3.00	70.00	13.00	2.50	4.50
168B:						
Manlius	2s	4.00	105.00	17.00	4.00	6.00
168C:						
Manlius	3e	3.50	85.00	14.00	3.50	6.00
168D:						
Manlius	4e	3.00	70.00	12.00	3.00	5.00
168E:						
Manlius	7e	---	---	---	---	---
173B:						
Mongaup	2e	4.00	105.00	17.00	4.00	5.00
173C:						
Mongaup	3e	3.50	90.00	15.00	3.00	5.00
173E:						
Mongaup	7e	---	---	---	---	---
176B:						
Nellis	2e	6.00	140.00	23.00	5.00	8.00
176C:						
Nellis	3e	5.50	125.00	21.00	4.50	7.50
176D:						
Nellis	4e	5.00	95.00	18.00	4.00	7.00
195:						
Palms, drained	4w	---	118.00	18.00	---	---
200B:						
Bice	2e	4.50	100.00	20.00	4.50	6.50
200C:						
Bice	3e	4.00	90.00	18.00	4.00	6.00

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
200D:						
Bice	4e	3.50	75.00	16.00	3.50	5.50
200E:						
Bice	7e	---	---	---	---	---
212:						
Adrian	5w	---	---	---	---	---
221B:						
Kalurah	2e	5.00	120.00	22.00	4.50	6.50
221C:						
Kalurah	3e	4.50	110.00	20.00	4.00	6.00
221D:						
Kalurah	4e	4.00	70.00	17.00	3.50	5.00
221E:						
Kalurah	7e	---	---	---	---	---
223A:						
Malone	3w	---	95.00	16.00	3.50	6.00
223B:						
Malone	3w	---	95.00	16.00	3.50	6.00
223C:						
Malone	3e	---	85.00	14.00	3.00	5.50
256D:						
Becket, very bouldery	6s	---	---	---	---	4.00
260A:						
Ovid	3w	---	105.00	17.00	4.00	6.00
260B:						
Ovid	3w	---	105.00	17.00	4.00	6.00
267B:						
Greene	3w	---	70.00	13.00	3.00	5.50
267C:						
Greene	3e	---	65.00	11.00	2.50	5.50
269:						
Greene	3w	---	70.00	13.00	3.00	5.50
Tuller	4w	---	---	14.00	2.50	4.00
295:						
Carlisle, drained	4w	---	110.00	16.00	---	---
350A:						
Alton	2s	5.50	125.00	22.00	4.50	7.00
350B:						
Alton	2s	5.50	125.00	22.00	4.50	7.00
350C:						
Alton	3e	5.00	115.00	20.00	4.00	6.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
355B:						
Arnot------------------	3s	---	70.00	14.00	2.00	3.50
372A:						
Appleton----------------	3w	---	100.00	18.00	4.00	6.50
372B:						
Appleton----------------	3w	---	100.00	18.00	4.00	6.50
395:						
Palms-------------------	5w	---	---	---	---	---
397:						
Wonsqueak---------------	5w	---	---	---	---	---
398:						
Dawson------------------	5w	---	---	---	---	---
413B:						
Venango-----------------	3w	---	85.00	14.00	3.50	5.50
413C:						
Venango-----------------	3e	---	70.00	12.00	3.00	5.00
414B:						
Mardin------------------	2w	4.00	110.00	18.00	3.50	6.50
414C:						
Mardin------------------	3e	4.00	90.00	15.00	3.50	6.00
414D:						
Mardin------------------	4e	3.50	80.00	13.00	3.00	5.50
461:						
Marcy-------------------	4w	---	---	---	---	3.00
462:						
Runeberg----------------	5w	---	---	---	---	---
515A:						
Galway, well drained----	2s	4.50	120.00	20.00	5.00	7.50
515B:						
Galway, well drained----	2s	4.50	120.00	20.00	5.00	7.50
515C:						
Galway, well drained----	3e	4.00	100.00	18.00	4.50	7.00
565B:						
Aurora------------------	2e	3.50	95.00	19.00	4.00	6.50
565C:						
Aurora------------------	3e	3.00	85.00	17.00	3.50	6.00
565D:						
Aurora------------------	4e	2.50	70.00	14.00	3.00	5.50
565E:						
Aurora------------------	6e	---	---	---	---	---
582A:						
Amenia------------------	2w	5.00	120.00	23.00	5.00	7.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
582B:						
Amenia------------------	2w	5.00	120.00	23.00	5.00	7.50
747A:						
Manheim-----------------	3w	---	100.00	16.50	4.00	6.50
747B:						
Manheim-----------------	3w	---	105.00	17.50	4.00	6.50
747C:						
Manheim-----------------	3e	---	85.00	14.00	3.50	6.50
750B:						
Minoa-------------------	3w	---	105.00	19.00	4.00	6.00
790A:						
Conesus-----------------	2w	5.50	140.00	23.00	5.00	8.50
790B:						
Conesus-----------------	2e	5.00	125.00	23.00	5.00	8.50
790C:						
Conesus-----------------	3e	5.00	110.00	22.00	4.50	8.00
801B:						
Alton, cool-------------	2s	5.00	120.00	21.00	4.50	6.50
801C:						
Alton, cool-------------	3e	4.50	115.00	20.00	4.00	6.00
802D:						
Howard, cool------------	4e	4.00	85.00	14.00	3.00	6.00
Alton, cool-------------	4e	4.00	85.00	14.00	3.00	6.00
802E:						
Howard, cool------------	7e	---	---	---	---	---
Alton, cool-------------	7e	---	---	---	---	---
804:						
Chippewa, stony---------	5w	---	---	---	---	---
807A:						
Manheim, cool-----------	3w	---	90.00	14.00	3.50	6.50
807B:						
Manheim, cool-----------	3w	---	90.00	14.00	3.50	6.50
807C:						
Manheim, cool-----------	3e	---	80.00	13.00	3.00	6.00
811B:						
Empeyville, warm--------	2w	3.00	90.00	18.00	3.50	6.00
811C:						
Empeyville, warm--------	3e	3.00	80.00	16.00	3.00	6.00
813B:						
Gretor------------------	3w	---	70.00	13.00	3.00	5.50
813C:						
Gretor------------------	3e	---	65.00	11.00	2.50	5.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
814:						
Gretor------------------	3w	---	70.00	13.00	3.00	5.50
Torull------------------	4w	---	---	---	---	4.00
816B:						
Herkimer, cool----------	2w	5.00	130.00	22.00	4.50	8.50
818B:						
Kalurah, warm-----------	2e	5.50	125.00	23.00	5.00	7.00
818C:						
Kalurah, warm-----------	3e	5.00	115.00	21.00	4.50	6.50
818D:						
Kalurah, warm-----------	4e	4.50	80.00	18.00	4.00	5.50
818E:						
Kalurah, warm-----------	7e	---	---	---	---	---
819A:						
Kendaia, cool-----------	3w	---	100.00	18.00	4.00	6.50
819B:						
Kendaia, cool-----------	3w	---	100.00	18.00	4.00	6.50
823A:						
Malone, warm------------	3w	---	100.00	18.00	4.00	6.00
823B:						
Malone, warm------------	3w	---	100.00	18.00	4.00	6.00
823C:						
Malone, warm------------	3e	4.00	90.00	15.00	3.50	5.50
825B:						
Pinckney, warm----------	2e	5.00	115.00	20.00	5.00	6.50
825C:						
Pinckney, warm----------	3e	4.50	105.00	19.00	4.50	6.00
825D:						
Pinckney, warm----------	4e	4.00	80.00	15.00	3.50	5.50
831:						
Tughill, stony, warm----	5w	---	---	---	---	---
833A:						
Westbury, warm----------	3w	---	95.00	15.00	4.00	5.50
833B:						
Westbury, warm----------	3w	---	95.00	15.00	4.00	5.50
838B:						
Worth, warm-------------	2e	4.00	95.00	19.00	4.50	6.50
838C:						
Worth, warm-------------	3e	3.50	85.00	17.00	4.00	6.00
838D:						
Worth, warm-------------	4e	3.00	70.00	13.00	3.00	5.50

Table 6.—Land Capability and Yields per Acre of Nonirrigated Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture
		Tons	*Bu*	*Tons*	*Tons*	*AUM*
838E:						
Worth, warm------------	7e	---	---	---	---	---
842B:						
Farmington, cool--------	3s	---	90.00	15.00	3.50	4.50
843D:						
Farmington, cool--------	6s	---	---	---	---	3.00
Rock outcrop-----------	8	---	---	---	---	---
845A:						
Galway, cool------------	2s	4.00	110.00	18.00	4.50	7.00
845B:						
Galway, cool------------	2s	4.00	110.00	18.00	4.50	7.00
845C:						
Galway, cool------------	3e	3.50	80.00	16.00	4.00	6.50
858A:						
Chenango, red substratum	2s	5.50	135.00	23.00	5.00	8.50
858B:						
Chenango, red substratum	2s	5.50	135.00	23.00	5.00	8.50
858C:						
Chenango, red substratum	3e	4.50	110.00	18.00	3.50	8.50
858D:						
Chenango, red substratum	4e	4.00	85.00	14.00	3.00	6.00
858E:						
Chenango, red substratum	7e	---	---	---	---	---
982:						
Wallkill----------------	5w	---	---	---	---	---
W:						
Water.						

Table 7.--Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
1:				
Udifluvents, frequently flooded	Northern red oak	70	57	Eastern white pine
	Sugar maple	65	43	
Fluvaquents, frequently flooded, warm	Red maple	55	29	Eastern arborvitae, white spruce
2:				
Hamlin	Northern red oak	80	57	Eastern white pine
	Sugar maple	70	43	
4:				
Wakeville, occasionally flooded	Eastern hemlock	70	0	Eastern white pine, white spruce
	Red maple	60	43	
7:				
Wayland	Red maple	55	43	Eastern arborvitae, white spruce
9:				
Wenonah	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
10:				
Otego	Sugar maple	70	43	Eastern white pine
	White ash	85	57	
12B:				
Herkimer	Eastern white pine	85	143	Eastern white pine, red pine
	Sugar maple	69	43	
	White ash	80	57	
12C:				
Herkimer	Eastern white pine	85	143	Eastern white pine, red pine
	Sugar maple	69	43	
	White ash	80	57	
13:				
Fluvaquents, frequently flooded, cool	Red maple	55	29	Eastern arborvitae, white spruce
Borosaprists	Red maple	50	29	Tamarack
20:				
Pits, sand and gravel.				
21:				
Udorthents, refuse substratum.				
22:				
Udorthents, smoothed.				
Urban land.				

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
24A:				
Howard------------------	Eastern white pine--	85	143	Eastern white pine, red pine
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
24B:				
Howard------------------	Eastern white pine--	85	143	Eastern white pine, red pine
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
24C:				
Howard------------------	Eastern white pine--	85	143	Eastern white pine, red pine
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
25:				
Pits, quarry.				
27A:				
Nicholville-------------	Eastern white pine--	75	172	Eastern white pine, white spruce
	Northern red oak----	70	57	
	Sugar maple---------	65	43	
27B:				
Nicholville-------------	Eastern white pine--	75	172	Eastern white pine, white spruce
	Northern red oak----	70	57	
	Sugar maple---------	65	43	
28A:				
Phelps------------------	Eastern white pine--	85	143	Eastern white pine, red pine, white spruce
	Sugar maple---------	70	43	
	White ash-----------	84	57	
28B:				
Phelps------------------	Eastern white pine--	85	143	Eastern white pine, red pine, white spruce
	Sugar maple---------	70	43	
	White ash-----------	84	57	
30:				
Fredon, somewhat poorly drained----------------	Eastern white pine--	65	129	Eastern white pine, white spruce
	Northern red oak----	60	43	
	Red maple-----------	55	43	
Fredon, poorly drained--	Eastern arborvitae--	45	72	Eastern white pine
	Red maple-----------	50	29	
31:				
Halsey------------------	Red maple-----------	55	29	Eastern white pine
33A:				
Alton-------------------	Northern red oak----	70	57	Eastern white pine, red pine
	Sugar maple---------	60	43	
Urban land.				
33B:				
Alton-------------------	Northern red oak----	70	57	Eastern white pine, red pine
	Sugar maple---------	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
33B:				
Urban land.				
34D:				
Howard	Eastern white pine	85	143	Eastern white pine, red pine
	Northern red oak	80	57	
	Sugar maple	70	43	
Alton	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
34E:				
Howard	Eastern white pine	85	143	Eastern white pine, red pine
	Northern red oak	80	57	
	Sugar maple	70	43	
Alton	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
35A:				
Unadilla	Black cherry	80	57	Black cherry, eastern white pine, red pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	95	72	
35B:				
Unadilla	Black cherry	80	57	Black cherry, eastern white pine, red pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	95	72	
35C:				
Unadilla	Black cherry	80	57	Black cherry, eastern white pine, red pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	95	72	
36B:				
Salmon	Eastern white pine	80	0	Eastern white pine, red pine
	Sugar maple	70	43	
38A:				
Chenango	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
38B:				
Chenango	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
38C:				
Chenango	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
38D:				
Chenango	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
38E:				
Chenango	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
39A:				
Knickerbocker	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
39B:				
Knickerbocker	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
39C:				
Knickerbocker	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
41:				
Niagara	Black cherry	70	43	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	55	29	
	White ash	75	43	
42:				
Castile	Black cherry	70	43	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
43:				
Jebavy	Eastern white pine	60	143	Eastern white pine, white spruce
	Red maple	55	29	
46A:				
Colosse	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
	White ash	70	43	
46B:				
Colosse	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
	White ash	70	43	
46C:				
Colosse	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
	White ash	70	43	
46D:				
Colosse	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
	White ash	70	43	
47A:				
Scio	Black cherry	80	57	Eastern white pine, red pine, white spruce
	Eastern hemlock	70	0	
	Eastern white pine	85	143	
	Northern red oak	75	57	
	Sugar maple	70	43	
	White ash	85	57	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
47B:				
Scio--------------------	Black cherry--------	80	57	Eastern white pine, red pine, white spruce
	Eastern hemlock-----	70	0	
	Eastern white pine--	85	143	
	Northern red oak----	75	57	
	Sugar maple---------	70	43	
	White ash-----------	85	57	
50:				
Wareham-----------------	Eastern white pine--	60	114	Eastern white pine, white spruce
	Red maple-----------	65	43	
	Red spruce----------	45	100	
54D:				
Colton------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Red pine------------	52	86	
	Sugar maple---------	55	43	
55A:				
Adams-------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Sugar maple---------	55	43	
55B:				
Adams-------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Sugar maple---------	55	43	
55C:				
Adams-------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Sugar maple---------	55	43	
55D:				
Adams-------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Sugar maple---------	55	43	
55E:				
Adams-------------------	Eastern white pine--	60	114	Eastern white pine, red pine
	Sugar maple---------	55	43	
56B:				
Becket, very bouldery---	Balsam fir----------	55	114	Eastern white pine, red pine
	Eastern white pine--	69	129	
	Paper birch---------	71	86	
	Sugar maple---------	60	43	
Skerry, very bouldery---	Balsam fir----------	55	114	Balsam fir, eastern white pine
	Eastern white pine--	65	143	
	Sugar maple---------	60	43	
56C:				
Becket, very bouldery---	Balsam fir----------	55	114	Eastern white pine, red pine
	Eastern white pine--	69	129	
	Paper birch---------	71	86	
	Sugar maple---------	60	43	
Skerry, very bouldery---	Balsam fir----------	55	114	Balsam fir, eastern white pine
	Eastern white pine--	65	143	
	Sugar maple---------	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
57A:				
Croghan	Eastern white pine	65	143	Eastern white pine
	Sugar maple	55	29	
57B:				
Croghan	Eastern white pine	65	143	Eastern white pine
	Sugar maple	55	29	
60B:				
Adirondack, somewhat poorly drained, very bouldery	Eastern white pine	50	86	Balsam fir, red spruce
	Red maple	55	43	
	Yellow birch	50	29	
Adirondack, poorly drained, very bouldery	Red maple	50	29	Balsam fir
	Yellow birch	50	29	
61A:				
Schoharie	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
	White ash	85	57	
61B:				
Schoharie	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
	White ash	85	57	
61C:				
Schoharie	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
	White ash	85	57	
61E:				
Schoharie	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
	White ash	85	57	
62C:				
Becket, very bouldery	Balsam fir	55	114	Eastern white pine, red pine
	Eastern white pine	69	129	
	Paper birch	71	86	
	Sugar maple	60	43	
Tunbridge, very bouldery	Eastern white pine	50	86	Eastern white pine, red spruce
	Sugar maple	60	43	
62D:				
Becket, very bouldery	Balsam fir	55	114	Eastern white pine, red pine
	Eastern white pine	69	129	
	Paper birch	71	86	
	Sugar maple	60	43	
Tunbridge, very bouldery	Eastern white pine	50	86	Eastern white pine, red spruce
	Sugar maple	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
63A:				
Wallington	Northern red oak	65	43	Eastern white pine, white spruce
	Red maple	55	29	
	White ash	75	43	
63B:				
Wallington	Northern red oak	65	43	Eastern white pine, white spruce
	Red maple	55	29	
	White ash	75	43	
64A:				
Rhinebeck	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	70	43	
64B:				
Rhinebeck	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	70	43	
65F:				
Tunbridge, very bouldery	Eastern white pine	50	86	Eastern white pine, red spruce
	Sugar maple	60	43	
Lyman	Balsam fir	60	114	Balsam fir, eastern white pine
	Red spruce	40	86	
68:				
Wakeville, rarely flooded	Eastern hemlock	70	0	Eastern white pine, white spruce
	Red maple	70	43	
72:				
Canandaigua	Eastern white pine	60	114	Eastern white pine, white spruce
	Red maple	60	43	
74B:				
Berkshire	Balsam fir	60	114	Eastern white pine, red pine
	Eastern white pine	72	129	
	Red pine	65	114	
	Sugar maple	52	29	
	White ash	62	43	
	Yellow birch	55	29	
74C:				
Berkshire	Balsam fir	60	114	Eastern white pine, red pine
	Eastern white pine	72	129	
	Red pine	65	114	
	Sugar maple	52	29	
	White ash	62	43	
	Yellow birch	55	29	
75:				
Lamson	Eastern white pine	65	114	Eastern arborvitae, eastern white pine
	Red maple	65	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
76:				
Niagara	Black cherry	70	43	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	55	29	
	White ash	75	43	
77A:				
Collamer	American basswood	75	43	Eastern white pine, white spruce
	Black cherry	80	57	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
77B:				
Collamer	American basswood	75	43	Eastern white pine, white spruce
	Black cherry	80	57	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
77C:				
Collamer	American basswood	75	43	Eastern white pine, white spruce
	Black cherry	80	57	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
77D:				
Collamer	American basswood	75	43	Eastern white pine, white spruce
	Black cherry	80	57	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
78A:				
Arkport	Eastern white pine	85	143	Eastern white pine, red pine
	Red pine	85	172	
	Sugar maple	70	43	
78B:				
Arkport	Eastern white pine	85	143	Eastern white pine, red pine
	Red pine	85	172	
	Sugar maple	70	43	
78C:				
Arkport	Eastern white pine	85	143	Eastern white pine, red pine
	Red pine	85	172	
	Sugar maple	70	43	
79A:				
Roundabout	Eastern white pine	70	129	Balsam fir, eastern white pine, white spruce
	Red maple	55	29	
	White spruce	55	129	
79B:				
Roundabout	Eastern white pine	70	129	Balsam fir, eastern white pine, white spruce
	Red maple	55	29	
	White spruce	55	129	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			Cu ft/ac	
81A:				
Covert	Eastern white pine	55	100	Eastern white pine, red pine
	Northern red oak	60	29	
	Red pine	60	100	
	Sugar maple	55	29	
81B:				
Covert	Eastern white pine	55	100	Eastern white pine, red pine
	Northern red oak	60	29	
	Red pine	60	100	
	Sugar maple	55	29	
90A:				
Windsor	Eastern white pine	57	100	Eastern white pine, red pine
	Northern red oak	52	29	
	Red pine	61	100	
	Sugar maple	55	29	
90B:				
Windsor	Eastern white pine	57	100	Eastern white pine, red pine
	Northern red oak	52	29	
	Red pine	61	100	
	Sugar maple	55	29	
90C:				
Windsor	Eastern white pine	57	100	Eastern white pine, red pine
	Northern red oak	52	29	
	Red pine	61	100	
	Sugar maple	55	29	
90D:				
Windsor	Eastern white pine	57	100	Eastern white pine, red pine
	Northern red oak	52	29	
	Red pine	61	100	
	Sugar maple	55	29	
90E:				
Windsor	Eastern white pine	57	100	Eastern white pine, red pine
	Northern red oak	52	29	
	Red pine	61	100	
	Sugar maple	55	29	
92:				
Napoleon	Black spruce	15	29	Tamarack
	Tamarack	60	0	
94:				
Naumburg, somewhat poorly drained	Eastern white pine	60	100	Eastern hemlock, eastern white pine, white spruce
	Red maple	60	43	
	Sugar maple	55	29	
Naumburg, poorly drained	Eastern hemlock	---	---	Eastern white pine, white spruce
	Eastern white pine	60	100	
	Quaking aspen	---	---	
	Red maple	57	29	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
95:				
Carlisle	Red maple	55	29	Tamarack
	Tamarack	61	57	
99:				
Greenwood	Balsam fir	39	72	Tamarack
	Black spruce	15	29	
	Tamarack	60	0	
102B:				
Honeoye	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	80	57	
	White ash	95	57	
	White oak	80	57	
102C:				
Honeoye	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	80	57	
	White ash	95	57	
	White oak	80	57	
102D:				
Honeoye	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	80	57	
	White ash	95	57	
	White oak	80	57	
103B:				
Honeoye	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	80	57	
	White ash	95	57	
	White oak	80	57	
Urban land.				
104E:				
Honeoye	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	80	57	
	White ash	95	57	
	White oak	80	57	
Cazenovia	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
109B:				
Cazenovia	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
109C:				
Cazenovia	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	
109D:				
Cazenovia	Northern red oak	80	57	Eastern white pine, white spruce
	Sugar maple	70	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
111B:				
Lansing	Black cherry	80	57	Eastern white pine, red pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
111C:				
Lansing	Black cherry	80	57	Eastern white pine, red pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
111D:				
Lansing	Black cherry	80	57	Eastern white pine, red pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
111E:				
Lansing	Black cherry	80	57	Eastern white pine, red pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
113A:				
Camroden	Northern red oak	60	43	Eastern white pine, white spruce
	Red maple	65	43	
	Sugar maple	55	29	
113B:				
Camroden	Northern red oak	60	43	Eastern white pine, white spruce
	Red maple	65	43	
	Sugar maple	55	29	
113C:				
Camroden	Northern red oak	60	43	Eastern white pine, white spruce
	Red maple	65	43	
	Sugar maple	55	29	
114B:				
Pinckney	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	
114C:				
Pinckney	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	
114D:				
Pinckney	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	
115B:				
Chadakoin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
	White ash	70	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
115C:				
Chadakoin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
	White ash	70	43	
115D:				
Chadakoin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
	White ash	70	43	
115E:				
Chadakoin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
	White ash	70	43	
117A:				
Pittsfield	Eastern white pine	65	114	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
117B:				
Pittsfield	Eastern white pine	65	114	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
117C:				
Pittsfield	Eastern white pine	65	114	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
117D:				
Pittsfield	Eastern white pine	65	114	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
117E:				
Pittsfield	Eastern white pine	65	114	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	63	43	
119B:				
Pyrities	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
	White oak	70	57	
119C:				
Pyrities	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
	White oak	70	57	
119D:				
Pyrities	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
	White oak	70	57	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
119E:				
Pyrities	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
	White oak	70	57	
120C:				
Pyrities, rolling, very bouldery	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	70	43	
	White oak	70	57	
121B:				
Worth	Black cherry	70	43	Black cherry, eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
121C:				
Worth	Black cherry	70	43	Black cherry, eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
121D:				
Worth	Black cherry	70	43	Black cherry, eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
121E:				
Worth	Black cherry	70	43	Black cherry, eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
126A:				
Lima	Black cherry	80	57	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	75	43	
	White ash	90	57	
126B:				
Lima	Black cherry	80	57	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	75	43	
	White ash	90	57	
126C:				
Lima	Black cherry	80	57	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	75	43	
	White ash	90	57	
133B:				
Empeyville	Eastern white pine	65	114	Eastern white pine, red pine, white spruce
	Northern red oak	60	43	
	Sugar maple	60	43	
133C:				
Empeyville	Eastern white pine	65	114	Eastern white pine, red pine, white spruce
	Northern red oak	60	43	
	Sugar maple	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
136A:				
Kendaia	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
136B:				
Kendaia	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
144A:				
Westbury	Balsam fir	56	114	Eastern white pine, white spruce
	Eastern white pine	67	114	
	Red maple	65	43	
	White spruce	56	129	
144B:				
Westbury	Balsam fir	56	114	Eastern white pine, white spruce
	Eastern white pine	67	114	
	Red maple	65	43	
	White spruce	56	129	
146:				
Lyons	Red maple	50	29	Eastern arborvitae
150:				
Tughill, stony	Balsam fir	45	86	Balsam fir
	Eastern hemlock	50	0	
	Red maple	50	29	
	Red spruce	35	72	
151:				
Chippewa	Eastern white pine	50	86	Eastern arborvitae, white spruce
	Red maple	50	29	
152B:				
Farmington	American basswood	55	29	Eastern white pine, red pine
	Eastern hemlock	50	0	
	Eastern white pine	55	86	
	Northern red oak	50	29	
	Sugar maple	50	29	
	White ash	55	29	
153C:				
Farmington	American basswood	55	29	Eastern white pine, red pine
	Eastern hemlock	50	0	
	Eastern white pine	55	86	
	Northern red oak	50	29	
	Sugar maple	50	29	
	White ash	55	29	
Rock outcrop.				

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
153D:				
Farmington--------------	American basswood---	55	29	Eastern white pine, red pine
	Eastern hemlock-----	50	0	
	Eastern white pine--	55	86	
	Northern red oak----	50	29	
	Sugar maple---------	50	29	
	White ash-----------	55	29	
155:				
Dannemora, stony--------	Eastern white pine--	55	86	Eastern white pine
	Red maple-----------	50	29	
156B:				
Lairdsville, well drained----------------	Black cherry--------	70	43	Eastern white pine
	Northern red oak----	70	57	
	Sugar maple---------	60	43	
156C:				
Lairdsville, well drained----------------	Black cherry--------	70	43	Eastern white pine
	Northern red oak----	70	57	
	Sugar maple---------	60	43	
156E:				
Lairdsville, well drained----------------	Eastern white pine--	75	143	Eastern white pine, white spruce
	Northern red oak----	70	57	
	Sugar maple---------	60	43	
162B:				
Ischua------------------	Black cherry--------	70	43	Eastern white pine
	Northern red oak----	70	57	
	Sugar maple---------	63	43	
162C:				
Ischua------------------	Black cherry--------	70	43	Eastern white pine
	Northern red oak----	70	57	
	Sugar maple---------	63	43	
162D:				
Ischua------------------	Black cherry--------	70	43	Eastern white pine
	Northern red oak----	70	57	
	Sugar maple---------	63	43	
168B:				
Manlius-----------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
168C:				
Manlius-----------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
168D:				
Manlius-----------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
168E:				
Manlius	Black cherry	70	43	Black cherry, eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
173B:				
Mongaup	Black cherry	70	43	Eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
173C:				
Mongaup	Black cherry	70	43	Eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
173E:				
Mongaup	Black cherry	70	43	Eastern white pine, red pine
	Northern red oak	70	57	
	Sugar maple	70	43	
176B:				
Nellis	American basswood	80	57	Black walnut, eastern white pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
176C:				
Nellis	American basswood	80	57	Black walnut, eastern white pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
176D:				
Nellis	American basswood	80	57	Black walnut, eastern white pine
	Eastern white pine	85	143	
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	85	57	
195:				
Palms, drained	Red maple	60	29	Eastern arborvitae, tamarack
	Tamarack	64	57	
200B:				
Bice	Eastern white pine	65	114	Eastern hemlock, eastern white pine, red pine, white spruce
	Northern red oak	65	43	
	Red pine	70	129	
	Sugar maple	60	29	
200C:				
Bice	Eastern white pine	65	114	Eastern hemlock, eastern white pine, red pine, white spruce
	Northern red oak	65	43	
	Red pine	70	129	
	Sugar maple	60	29	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
200D:				
Bice	Eastern white pine	65	114	Eastern hemlock, eastern white pine, red pine, white spruce
	Northern red oak	65	43	
	Red pine	70	129	
	Sugar maple	60	29	
200E:				
Bice	Eastern white pine	65	114	Eastern hemlock, eastern white pine, red pine, white spruce
	Northern red oak	65	43	
	Red pine	70	129	
	Sugar maple	60	29	
212:				
Adrian	Red maple	55	29	Tamarack
	Tamarack	45	29	
221B:				
Kalurah	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
221C:				
Kalurah	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
221D:				
Kalurah	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
221E:				
Kalurah	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
223A:				
Malone	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
223B:				
Malone	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
223C:				
Malone	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
256D:				
Becket, very bouldery	Balsam fir	55	114	Eastern white pine, red pine, white spruce
	Eastern white pine	69	129	
	Paper birch	71	86	
	Sugar maple	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
260A:				
Ovid	Eastern white pine	70	129	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
260B:				
Ovid	Eastern white pine	70	129	Eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
267B:				
Greene	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
267C:				
Greene	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
269:				
Greene	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
Tuller	Eastern hemlock	45	0	Eastern white pine, white spruce
	Red maple	55	29	
295:				
Carlisle, drained	Red maple	60	29	Tamarack
	Tamarack	64	57	
350A:				
Alton	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
350B:				
Alton	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
350C:				
Alton	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
355B:				
Arnot	Eastern white pine	55	86	Eastern white pine, red pine
	Northern red oak	55	43	
	Sugar maple	50	29	
	White ash	55	29	
372A:				
Appleton	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	
372B:				
Appleton	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Sugar maple	60	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
395:				
Palms	Red maple	55	29	Eastern arborvitae, tamarack
	Tamarack	61	57	
397:				
Wonsqueak	Black spruce	20	29	Tamarack
	Tamarack	61	0	
398:				
Dawson	Black spruce	15	29	Tamarack
	Tamarack	60	0	
413B:				
Venango	Northern red oak	60	43	Eastern white pine, white ash
	Red maple	65	43	
	Sugar maple	55	29	
413C:				
Venango	Northern red oak	60	43	Eastern white pine, white ash
	Red maple	65	43	
	Sugar maple	55	29	
414B:				
Mardin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	63	43	
	Sugar maple	60	43	
	White ash	70	43	
414C:				
Mardin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	63	43	
	Sugar maple	60	43	
	White ash	70	43	
414D:				
Mardin	Black cherry	70	43	Eastern white pine, red pine, white spruce
	Northern red oak	63	43	
	Sugar maple	60	43	
	White ash	70	43	
461:				
Marcy	Eastern white pine	50	86	Eastern white pine, white spruce
	Red maple	50	29	
462:				
Runeberg	Eastern arborvitae	45	72	Eastern arborvitae, white spruce
	Red maple	65	43	
515A:				
Galway, well drained	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White ash	75	43	
515B:				
Galway, well drained	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White ash	75	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
515C:				
Galway, well drained----	Northern red oak----	70	57	Eastern white pine, red pine
	Sugar maple---------	65	43	
	White ash-----------	75	43	
565B:				
Aurora------------------	Eastern white pine--	85	143	Eastern white pine, white spruce
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
	White ash-----------	85	57	
565C:				
Aurora------------------	Eastern white pine--	85	143	Eastern white pine, white spruce
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
	White ash-----------	85	57	
565D:				
Aurora------------------	Eastern white pine--	85	143	Eastern white pine, white spruce
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
	White ash-----------	85	57	
565E:				
Aurora------------------	Eastern white pine--	85	143	Eastern white pine, white spruce
	Northern red oak----	80	57	
	Sugar maple---------	70	43	
	White ash-----------	85	57	
582A:				
Amenia------------------	Eastern white pine--	75	143	Eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	65	43	
	White ash-----------	75	43	
582B:				
Amenia------------------	Eastern white pine--	75	143	Eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	65	43	
	White ash-----------	75	43	
747A:				
Manheim-----------------	Eastern white pine--	75	143	Eastern arborvitae, white spruce
	Northern red oak----	70	57	
	Red maple-----------	75	43	
	White ash-----------	75	43	
747B:				
Manheim-----------------	Eastern white pine--	75	143	Eastern arborvitae, white spruce
	Northern red oak----	70	57	
	Red maple-----------	75	43	
	White ash-----------	75	43	
747C:				
Manheim-----------------	Eastern white pine--	75	143	Eastern arborvitae, white spruce
	Northern red oak----	70	57	
	Red maple-----------	75	43	
	White ash-----------	75	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
750B:				
Minoa	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
790A:				
Conesus	Eastern white pine	85	143	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	90	57	
790B:				
Conesus	Eastern white pine	85	143	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	90	57	
790C:				
Conesus	Eastern white pine	85	143	Eastern white pine, white spruce
	Northern red oak	80	57	
	Sugar maple	70	43	
	White ash	90	57	
801B:				
Alton, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
801C:				
Alton, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
802D:				
Howard, cool	Eastern white pine	85	143	Eastern white pine, red pine
	Northern red oak	80	57	
	Sugar maple	70	43	
Alton, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
802E:				
Howard, cool	Eastern white pine	85	143	Eastern white pine, red pine
	Northern red oak	80	57	
	Sugar maple	70	43	
Alton, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	60	43	
804:				
Chippewa, stony	Eastern white pine	50	86	Eastern arborvitae, white spruce
	Red maple	50	29	
807A:				
Manheim, cool	Eastern white pine	75	143	Eastern arborvitae, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
807B:				
Manheim, cool	Eastern white pine	75	143	Eastern arborvitae, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
807C:				
Manheim, cool	Eastern white pine	75	143	Eastern arborvitae, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
811B:				
Empeyville, warm	Eastern white pine	65	114	Eastern white pine, red pine, white spruce
	Northern red oak	60	43	
	Sugar maple	60	43	
811C:				
Empeyville, warm	Eastern white pine	65	114	Eastern white pine, red pine, white spruce
	Northern red oak	60	43	
	Sugar maple	60	43	
813B:				
Gretor	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
813C:				
Gretor	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
814:				
Gretor	Eastern white pine	55	86	Eastern white pine, white spruce
	Red maple	55	29	
	Yellow birch	50	29	
Torull	Eastern white pine	55	86	Balsam fir, white spruce
	Red maple	50	29	
	Yellow birch	50	29	
816B:				
Herkimer, cool	Eastern white pine	85	143	Eastern white pine, red pine
	Sugar maple	69	43	
	White ash	80	57	
818B:				
Kalurah, warm	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
818C:				
Kalurah, warm	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			Cu ft/ac	
818D:				
Kalurah, warm	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
818E:				
Kalurah, warm	Northern red oak	75	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White oak	70	57	
819A:				
Kendaia, cool	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
819B:				
Kendaia, cool	Eastern white pine	75	143	Eastern arborvitae, eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
823A:				
Malone, warm	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
823B:				
Malone, warm	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
823C:				
Malone, warm	Eastern white pine	75	143	Eastern white pine, white spruce
	Northern red oak	70	57	
	Red maple	75	43	
	White ash	75	43	
825B:				
Pinckney, warm	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	
825C:				
Pinckney, warm	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	
825D:				
Pinckney, warm	Northern red oak	75	57	Eastern white pine, white spruce
	Sugar maple	60	43	
	White oak	70	57	

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			Cu ft/ac	
831:				
Tughill, stony, warm----	Balsam fir----------	45	86	Balsam fir, white spruce
	Eastern hemlock-----	50	0	
	Red maple-----------	50	29	
	Red spruce----------	35	72	
833A:				
Westbury, warm----------	Balsam fir----------	56	114	Eastern white pine, white spruce
	Eastern white pine--	67	114	
	Red maple-----------	65	43	
	White spruce--------	56	129	
833B:				
Westbury, warm----------	Balsam fir----------	56	114	Eastern white pine, white spruce
	Eastern white pine--	67	114	
	Red maple-----------	65	43	
	White spruce--------	56	129	
838B:				
Worth, warm-------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
838C:				
Worth, warm-------------	Black cherry--------	70	43	Black cherry, eastern white pine, European larch, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
838D:				
Worth, warm-------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
838E:				
Worth, warm-------------	Black cherry--------	70	43	Black cherry, eastern white pine, red pine
	Northern red oak----	70	57	
	Sugar maple---------	70	43	
842B:				
Farmington, cool--------	American basswood---	55	29	Eastern white pine, red pine
	Eastern hemlock-----	50	0	
	Eastern white pine--	55	86	
	Northern red oak----	50	29	
	Sugar maple---------	50	29	
	White ash-----------	55	29	
843D:				
Farmington, cool--------	American basswood---	55	29	Eastern white pine, red pine
	Eastern hemlock-----	50	0	
	Eastern white pine--	55	86	
	Northern red oak----	50	29	
	Sugar maple---------	50	29	
	White ash-----------	55	29	
Rock outcrop.				

Table 7.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			Cu ft/ac	
845A:				
Galway, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White ash	75	43	
845B:				
Galway, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White ash	75	43	
845C:				
Galway, cool	Northern red oak	70	57	Eastern white pine, red pine
	Sugar maple	65	43	
	White ash	75	43	
858A:				
Chenango, red substratum	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
858B:				
Chenango, red substratum	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
858C:				
Chenango, red substratum	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
858D:				
Chenango, red substratum	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
858E:				
Chenango, red substratum	Northern red oak	80	57	Eastern white pine, red pine
	Sugar maple	70	43	
982:				
Wallkill	Black willow	---	0	Tamarack
	Silver maple	70	29	
W:				
Water.				

Table 8.--Forestland Management (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.58
Fluvaquents, frequently flooded, warm	35	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Wetness	1.00
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50		
2:							
Hamlin	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.58
4:							
Wakeville, occasionally flooded	70	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	0.75
		Low strength	0.50	Wetness	0.50	Wetness	0.67
				Low strength	0.50		
7:							
Wayland	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Wetness	1.00
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50		
9:							
Wenonah	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.25
10:							
Otego	70	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.67
				Wetness	0.50		
12B:							
Herkimer	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.33
12C:							
Herkimer	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.33

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
13:							
Fluvaquents, frequently flooded, cool----------------	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Wetness	1.00
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50		
Borosaprists--------	35	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
20:							
Pits, sand and gravel-------------	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Well suited		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50		
24B:							
Howard--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50		
				Slope	0.50		
24C:							
Howard--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	
27A:							
Nicholville---------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
27B:							
Nicholville---------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58
				Wetness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28A:							
Phelps--------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50	Wetness	0.50
				Wetness	0.50		
28B:							
Phelps--------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50	Wetness	0.50
				Wetness	0.50		
30:							
Fredon, somewhat poorly drained-----	70	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	0.75
		Sandiness	0.50	Sandiness	0.50	Low strength	0.75
				Low strength	0.50		
Fredon, poorly drained------------	15	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	1.00
		Sandiness	0.50	Sandiness	0.50	Low strength	0.75
				Low strength	0.50		
31:							
Halsey--------------	85	Moderate		Poorly suited		Severe	
		Sandiness	0.50	Wetness	1.00	Wetness	1.00
				Sandiness	0.50	Low strength	0.38
33A:							
Alton---------------	40	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
Urban land----------	30	Not rated		Not rated		Not rated	
33B:							
Alton---------------	40	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
				Slope	0.50		
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
Alton---------------	30	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
34E:							
Howard--------------	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34E:							
Alton---------------	30	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
35A:							
Unadilla------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
35B:							
Unadilla------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
35C:							
Unadilla------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
36B:							
Salmon--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
38A:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50		
38B:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Sandiness	0.50	Low strength	0.75
		Sandiness	0.50	Low strength	0.50		
				Slope	0.50		
38C:							
Chenango------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
38D:							
Chenango------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
38E:							
Chenango------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
39A:							
Knickerbocker-------	80	Slight		Well suited		Slight	
						Low strength	0.38

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39B:							
Knickerbocker-------	80	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
39C:							
Knickerbocker-------	80	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
41:							
Niagara-------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
42:							
Castile-------------	85	Slight		Moderately suited		Slight	
				Wetness	0.50	Low strength	0.38
						Wetness	0.25
43:							
Jebavy--------------	70	Slight		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Wetness	1.00	Low strength	0.38
46A:							
Colosse-------------	85	Slight		Well suited		Slight	
						Low strength	0.38
46B:							
Colosse-------------	85	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
46C:							
Colosse-------------	85	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
46D:							
Colosse-------------	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
47A:							
Scio----------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.50
47B:							
Scio----------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.50
50:							
Wareham-------------	70	Slight		Poorly suited		Moderate	
				Wetness	1.00	Wetness	0.58
						Low strength	0.38
54D:							
Colton--------------	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
				Sandiness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55A:							
Adams---------------	65	Slight		Moderately suited		Slight	
				Sandiness	0.50	Low strength	0.38
55B:							
Adams---------------	65	Slight		Moderately suited		Slight	
				Sandiness	0.50	Low strength	0.38
				Slope	0.50		
55C:							
Adams---------------	70	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
				Sandiness	0.50		
55D:							
Adams---------------	70	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
				Sandiness	0.50		
55E:							
Adams---------------	70	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
				Sandiness	0.50		
56B:							
Becket, very bouldery-----------	40	Slight		Moderately suited		Slight	
				Rock fragments	0.50	Low strength	0.38
				Slope	0.50	Wetness	0.17
Skerry, very bouldery-----------	35	Slight		Moderately suited		Moderate	
				Rock fragments	0.50	Wetness	0.58
				Wetness	0.50	Low strength	0.38
56C:							
Becket, very bouldery-----------	45	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
				Rock fragments	0.50	Wetness	0.17
Skerry, very bouldery-----------	35	Slight		Moderately suited		Moderate	
				Slope	0.50	Wetness	0.58
				Rock fragments	0.50	Low strength	0.38
				Wetness	0.50		
57A:							
Croghan-------------	65	Slight		Moderately suited		Moderate	
				Sandiness	0.50	Wetness	0.58
				Wetness	0.50	Low strength	0.38
57B:							
Croghan-------------	70	Slight		Moderately suited		Moderate	
				Sandiness	0.50	Wetness	0.58
				Wetness	0.50	Low strength	0.38
				Slope	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Slight		Poorly suited Wetness Rock fragments	 1.00 0.50	Severe Low strength Wetness	 0.75 0.58
Adirondack, poorly drained, very bouldery	30	Slight		Poorly suited Wetness Rock fragments	 1.00 0.50	Severe Wetness Low strength	 0.86 0.75
61A:							
Schoharie	85	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength Wetness	 0.75 0.50
61B:							
Schoharie	85	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength Wetness	 0.75 0.50
61C:							
Schoharie	85	Moderate Low strength	 0.50	Moderately suited Slope Low strength	 0.50 0.50	Severe Low strength Wetness	 0.75 0.50
61E:							
Schoharie	85	Moderate Slope	 0.50	Poorly suited Slope Low strength	 1.00 0.50	Severe Low strength Wetness	 0.75 0.50
62C:							
Becket, very bouldery	45	Slight		Moderately suited Slope Rock fragments	 0.50 0.50	Slight Low strength Wetness	 0.38 0.17
Tunbridge, very bouldery	35	Moderate Restrictive layer	 0.50	Moderately suited Slope Rock fragments	 0.50 0.50	Slight Low strength	 0.38
62D:							
Becket, very bouldery	40	Moderate Slope	 0.50	Poorly suited Slope Rock fragments	 1.00 0.50	Slight Low strength Wetness	 0.38 0.17
Tunbridge, very bouldery	35	Moderate Slope Restrictive layer	 0.50 0.50	Poorly suited Slope Rock fragments	 1.00 0.50	Slight Low strength	 0.38
63A:							
Wallington	80	Moderate Low strength	 0.50	Moderately suited Wetness Low strength	 0.50 0.50	Severe Low strength Wetness	 0.75 0.58

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63B:							
Wallington----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
64A:							
Rhinebeck-----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
64B:							
Rhinebeck-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Slope	0.50		
65F:							
Tunbridge, very bouldery-----------	40	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Low strength	0.38
				Rock fragments	0.50		
Lyman---------------	35	Severe		Poorly suited		Slight	
		Slope	1.00	Slope	1.00	Low strength	0.38
				Rock fragments	0.50		
68:							
Wakeville, rarely flooded------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
72:							
Canandaigua---------	80	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	1.00
				Low strength	0.50	Low strength	0.75
74B:							
Berkshire-----------	70	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
74C:							
Berkshire-----------	70	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
75:							
Lamson--------------	70	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.67
76:							
Niagara-------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
77A:							
Collamer------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.25

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77B:							
Collamer------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.25
				Wetness	0.50		
77C:							
Collamer------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
77D:							
Collamer------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
78A:							
Arkport-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
78B:							
Arkport-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
78C:							
Arkport-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
79A:							
Roundabout----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
79B:							
Roundabout----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
81A:							
Covert--------------	65	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Wetness	0.50
						Low strength	0.38
81B:							
Covert--------------	65	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Wetness	0.50
						Low strength	0.38
90A:							
Windsor-------------	80	Slight		Well suited		Slight	
						Low strength	0.38
90B:							
Windsor-------------	80	Slight		Well suited		Slight	
						Low strength	0.38

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
90C:							
Windsor-------------	80	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
90D:							
Windsor-------------	80	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
90E:							
Windsor-------------	90	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
92:							
Napoleon------------	85	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
94:							
Naumburg, somewhat poorly drained-----	50	Slight		Poorly suited		Severe	
				Wetness	1.00	Low strength	0.75
						Wetness	0.58
Naumburg, poorly drained------------	35	Slight		Poorly suited		Severe	
				Wetness	1.00	Wetness	1.00
						Low strength	0.75
95:							
Carlisle------------	80	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
99:							
Greenwood-----------	80	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
102B:							
Honeoye-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.25
102C:							
Honeoye-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
102D:							
Honeoye-------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
103B:							
Honeoye-------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
						Wetness	0.25
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye-------------	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
Cazenovia-----------	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
109B:							
Cazenovia-----------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.25
109C:							
Cazenovia-----------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
109D:							
Cazenovia-----------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
111B:							
Lansing-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
111C:							
Lansing-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
111D:							
Lansing-------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
111E:							
Lansing-------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
113A:							
Camroden------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113B:							
Camroden-----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Slope	0.50		
113C:							
Camroden-----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
				Low strength	0.50		
114B:							
Pinckney-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.50
				Wetness	0.50		
114C:							
Pinckney-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
114D:							
Pinckney-----------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
115B:							
Chadakoin----------	75	Slight		Moderately suited		Severe	
				Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.25
115C:							
Chadakoin----------	80	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
115D:							
Chadakoin----------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
115E:							
Chadakoin----------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.25
117A:							
Pittsfield---------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
117B:							
Pittsfield---------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
117C:							
Pittsfield----------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
117D:							
Pittsfield----------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
117E:							
Pittsfield----------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
119B:							
Pyrities------------	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
119C:							
Pyrities------------	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
119D:							
Pyrities------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
119E:							
Pyrities------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
120C:							
Pyrities, rolling, very bouldery------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Rock fragments	0.50		
				Low strength	0.50		
121B:							
Worth---------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.33
121C:							
Worth---------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.33
121D:							
Worth---------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.33

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
121E:							
Worth---------------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.33
126A:							
Lima----------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.25
126B:							
Lima----------------	80	Slight		Moderately suited		Slight	
				Slope	0.50	Wetness	0.25
				Wetness	0.50	Low strength	0.08
126C:							
Lima----------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		
133B:							
Empeyville----------	80	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58
133C:							
Empeyville----------	85	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
136A:							
Kendaia-------------	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
136B:							
Kendaia-------------	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Slope	0.50		
144A:							
Westbury------------	90	Slight		Poorly suited		Severe	
				Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
144B:							
Westbury------------	90	Slight		Poorly suited		Severe	
				Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
146:							
Lyons---------------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Wetness	1.00
				Wetness	1.00	Low strength	0.75
				Low strength	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
150:							
Tughill, stony------	75	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
151:							
Chippewa-----------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	1.00
				Ponding	0.50	Low strength	0.75
				Low strength	0.50		
152B:							
Farmington----------	80	Severe		Moderately suited		Severe	
		Restrictive layer	1.00	Low strength	0.50	Low strength	0.75
153C:							
Farmington----------	50	Severe		Moderately suited		Severe	
		Restrictive layer	1.00	Slope	0.50	Low strength	0.75
				Low strength	0.50		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
155:							
Dannemora, stony----	85	Moderate		Poorly suited		Severe	
		Sandiness	0.50	Wetness	1.00	Wetness	0.77
				Sandiness	0.50	Low strength	0.38
156B:							
Lairdsville, well drained-----------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
		Restrictive layer	0.50	Slope	0.50		
156C:							
Lairdsville, well drained-----------	80	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
		Low strength	0.50	Low strength	0.50		
156E:							
Lairdsville, well drained-----------	80	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
162B:							
Ischua-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
		Restrictive layer	0.50	Wetness	0.50	Wetness	0.50

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162C:							
Ischua--------------	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.50
				Wetness	0.50		
162D:							
Ischua--------------	75	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50	Wetness	0.50
				Wetness	0.50		
168B:							
Manlius-------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
		Restrictive layer	0.50	Slope	0.50		
168C:							
Manlius-------------	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
		Low strength	0.50	Low strength	0.50		
168D:							
Manlius-------------	75	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
168E:							
Manlius-------------	85	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
173B:							
Mongaup-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
		Restrictive layer	0.50	Slope	0.50		
173C:							
Mongaup-------------	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
		Low strength	0.50	Low strength	0.50		
173E:							
Mongaup-------------	80	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
176B:							
Nellis--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
176C:							
Nellis--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
176D:							
Nellis--------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50		
195:							
Palms, drained------	80	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
200B:							
Bice----------------	70	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
200C:							
Bice----------------	70	Slight		Moderately suited		Slight	
				Slope	0.50	Low strength	0.38
200D:							
Bice----------------	70	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
200E:							
Bice----------------	80	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
212:							
Adrian--------------	85	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
				Sandiness	0.50		
221B:							
Kalurah-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58
				Wetness	0.50		
221C:							
Kalurah-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		
221D:							
Kalurah-------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		
221E:							
Kalurah-------------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223A:							
Malone--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
223B:							
Malone--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
				Slope	0.50		
223C:							
Malone--------------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.67
				Low strength	0.50		
256D:							
Becket, very bouldery-----------	80	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
				Rock fragments	0.50	Wetness	0.17
260A:							
Ovid----------------	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
260B:							
Ovid----------------	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
267B:							
Greene--------------	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
		Restrictive layer	0.50	Low strength	0.50	Wetness	0.58
267C:							
Greene--------------	75	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Wetness	1.00	Low strength	0.75
		Low strength	0.50	Slope	0.50	Wetness	0.58
				Low strength	0.50		
269:							
Greene--------------	45	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
		Restrictive layer	0.50	Low strength	0.50	Wetness	0.58
Tuller--------------	35	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Wetness	1.00	Wetness	0.77
		Low strength	0.50	Low strength	0.50	Low strength	0.75
295:							
Carlisle, drained---	85	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
350A:							
Alton---------------	75	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
350B:							
Alton---------------	75	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
				Slope	0.50		
350C:							
Alton---------------	75	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Slope	0.50	Low strength	0.38
				Sandiness	0.50		
355B:							
Arnot---------------	75	Severe		Moderately suited		Severe	
		Restrictive layer	1.00	Low strength	0.50	Low strength	0.75
		Low strength	0.50	Slope	0.50		
372A:							
Appleton------------	65	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.50
372B:							
Appleton------------	65	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Slope	0.50		
395:							
Palms---------------	80	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
397:							
Wonsqueak-----------	85	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
				Wetness	1.00		
398:							
Dawson--------------	85	Not rated		Poorly suited		Severe	
				Low strength	1.00	Wetness	1.00
				Wetness	1.00	Low strength	0.75
				Sandiness	0.50		
413B:							
Venango-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
413C:							
Venango-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
				Low strength	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
414B:							
Mardin--------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.50
				Wetness	0.50		
414C:							
Mardin--------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
414D:							
Mardin--------------	80	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
461:							
Marcy---------------	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	1.00
				Low strength	0.50	Low strength	0.75
462:							
Runeberg------------	65	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	0.75
				Ponding	0.50	Low strength	0.75
				Low strength	0.50		
515A:							
Galway, well drained	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	0.75
515B:							
Galway, well drained	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
515C:							
Galway, well drained	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
565B:							
Aurora--------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
		Restrictive layer	0.50	Slope	0.50	Wetness	0.25
				Wetness	0.50		
565C:							
Aurora--------------	80	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
		Low strength	0.50	Low strength	0.50	Wetness	0.25
				Wetness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
565D:							
Aurora--------------	85	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50	Wetness	0.25
				Wetness	0.50		
565E:							
Aurora--------------	80	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50	Wetness	0.25
				Wetness	0.50		
582A:							
Amenia--------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
582B:							
Amenia--------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58
				Wetness	0.50		
747A:							
Manheim-------------	65	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
747B:							
Manheim-------------	65	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
747C:							
Manheim-------------	65	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.67
				Low strength	0.50		
750B:							
Minoa---------------	65	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
790A:							
Conesus-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.25
790B:							
Conesus-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.25
790C:							
Conesus-------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.25
				Wetness	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
801B:							
Alton, cool	75	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
				Slope	0.50		
801C:							
Alton, cool	75	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Slope	0.50	Low strength	0.38
				Sandiness	0.50		
802D:							
Howard, cool	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
Alton, cool	30	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
802E:							
Howard, cool	60	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
		Sandiness	0.50	Sandiness	0.50		
				Low strength	0.50		
Alton, cool	30	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
804:							
Chippewa, stony	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Wetness	1.00
				Ponding	0.50	Low strength	0.75
				Low strength	0.50		
807A:							
Manheim, cool	65	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
807B:							
Manheim, cool	65	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
807C:							
Manheim, cool	65	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.67
				Low strength	0.50		
811B:							
Empeyville, warm	80	Slight		Moderately suited		Severe	
				Wetness	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
811C:							
Empeyville, warm----	85	Slight		Moderately suited		Severe	
				Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.58
813B:							
Gretor--------------	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
		Restrictive layer	0.50	Low strength	0.50	Wetness	0.67
813C:							
Gretor--------------	75	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Wetness	1.00	Low strength	0.75
		Low strength	0.50	Slope	0.50	Wetness	0.67
				Low strength	0.50		
814:							
Gretor--------------	45	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	0.75
		Restrictive layer	0.50	Low strength	0.50	Wetness	0.67
Torull--------------	35	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.67
816B:							
Herkimer, cool------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.33
818B:							
Kalurah, warm-------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.58
				Wetness	0.50		
818C:							
Kalurah, warm-------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		
818D:							
Kalurah, warm-------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		
818E:							
Kalurah, warm-------	75	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Wetness	0.50		
819A:							
Kendaia, cool-------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
819B:							
Kendaia, cool-------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.58
				Slope	0.50		
823A:							
Malone, warm--------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
823B:							
Malone, warm--------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.67
				Slope	0.50		
823C:							
Malone, warm--------	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Wetness	0.50	Wetness	0.67
				Low strength	0.50		
825B:							
Pinckney, warm------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.50
				Wetness	0.50		
825C:							
Pinckney, warm------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
825D:							
Pinckney, warm------	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.50
				Wetness	0.50		
831:							
Tughill, stony, warm	75	Not rated		Poorly suited		Severe	
				Ponding	1.00	Wetness	1.00
				Low strength	1.00	Low strength	0.75
833A:							
Westbury, warm------	90	Slight		Poorly suited		Severe	
				Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58
833B:							
Westbury, warm------	90	Slight		Poorly suited		Severe	
				Wetness	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.58

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838B:							
Worth, warm	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50	Wetness	0.33
838C:							
Worth, warm	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50	Wetness	0.33
838D:							
Worth, warm	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.33
838E:							
Worth, warm	85	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	0.75
				Low strength	0.50	Wetness	0.33
842B:							
Farmington, cool	80	Severe		Moderately suited		Severe	
		Restrictive layer	1.00	Low strength	0.50	Low strength	0.75
843D:							
Farmington, cool	45	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.75
		Slope	0.50	Low strength	0.50		
Rock outcrop	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	0.75
845B:							
Galway, cool	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	0.75
				Slope	0.50		
845C:							
Galway, cool	75	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.75
				Low strength	0.50		
858A:							
Chenango, red substratum	85	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
858B:							
Chenango, red substratum	85	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.38
				Slope	0.50		

Table 8.--Forestland Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
858C:							
Chenango, red substratum---------	85	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Slope	0.50	Low strength	0.38
				Sandiness	0.50		
858D:							
Chenango, red substratum---------	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
858E:							
Chenango, red substratum---------	85	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Low strength	0.38
		Sandiness	0.50	Sandiness	0.50		
982:							
Wallkill------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Wetness	1.00
		Sandiness	0.50	Low strength	1.00	Low strength	0.75
				Wetness	1.00		
				Sandiness	0.50		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9.--Forestland Management (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
Fluvaquents, frequently flooded, warm----------------	35	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
2:							
Hamlin--------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
4:							
Wakeville, occasionally flooded------------	70	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
7:							
Wayland-------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
9:							
Wenonah-------------	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
10:							
Otego---------------	70	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
						Wetness	0.50
12B:							
Herkimer------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
12C:							
Herkimer------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
13:							
Fluvaquents, frequently flooded, cool	45	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
Borosaprists	35	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
20:							
Pits, sand and gravel	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land	75	Not rated		Not rated		Not rated	
24A:							
Howard	85	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Low strength	0.50
24B:							
Howard	85	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Low strength	0.50
						Slope	0.50
24C:							
Howard	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Sandiness	0.50
						Low strength	0.50
25:							
Pits, quarry	70	Not rated		Not rated		Not rated	
27A:							
Nicholville	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
27B:							
Nicholville	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
28A:							
Phelps	80	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Low strength	0.50
						Wetness	0.50
28B:							
Phelps	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Low strength	0.50
						Wetness	0.50
30:							
Fredon, somewhat poorly drained	70	Slight		Slight		Poorly suited	
						Wetness	1.00
						Sandiness	0.50
						Low strength	0.50
Fredon, poorly drained	15	Slight		Slight		Poorly suited	
						Wetness	1.00
						Sandiness	0.50
						Low strength	0.50
31:							
Halsey	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Sandiness	0.50
33A:							
Alton	40	Slight		Slight		Moderately suited	
						Sandiness	0.50
Urban land	30	Not rated		Not rated		Not rated	
33B:							
Alton	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Slope	0.50
Urban land	30	Not rated		Not rated		Not rated	
34D:							
Howard	60	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Sandiness	0.50
						Low strength	0.50
Alton	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
34E:							
Howard	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
34E:							
Alton	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
35A:							
Unadilla	80	Slight		Slight		Moderately suited	
						Low strength	0.50
35B:							
Unadilla	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
35C:							
Unadilla	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
36B:							
Salmon	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
38A:							
Chenango	85	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Low strength	0.50
38B:							
Chenango	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Low strength	0.50
						Slope	0.50
38C:							
Chenango	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Sandiness	0.50
						Low strength	0.50
38D:							
Chenango	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
						Low strength	0.50
38E:							
Chenango	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
						Low strength	0.50
39A:							
Knickerbocker	80	Slight		Slight		Well suited	
39B:							
Knickerbocker	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39C:							
Knickerbocker-------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
41:							
Niagara-------------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
42:							
Castile-------------	85	Slight		Slight		Moderately suited	
						Wetness	0.50
43:							
Jebavy--------------	70	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
46A:							
Colosse-------------	85	Slight		Slight		Well suited	
46B:							
Colosse-------------	85	Slight		Slight		Moderately suited	
						Slope	0.50
46C:							
Colosse-------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
46D:							
Colosse-------------	85	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
47A:							
Scio----------------	80	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
47B:							
Scio----------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
50:							
Wareham-------------	70	Slight		Slight		Poorly suited	
						Wetness	1.00
54D:							
Colton--------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
55A:							
Adams---------------	65	Slight		Slight		Moderately suited	
						Sandiness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
55B:							
Adams	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Slope	0.50
55C:							
Adams	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Sandiness	0.50
55D:							
Adams	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
55E:							
Adams	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
56B:							
Becket, very bouldery	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Rock fragments	0.50
						Slope	0.50
Skerry, very bouldery	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Rock fragments	0.50
						Wetness	0.50
56C:							
Becket, very bouldery	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Rock fragments	0.50
Skerry, very bouldery	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Rock fragments	0.50
						Wetness	0.50
57A:							
Croghan	65	Slight		Slight		Moderately suited	
						Sandiness	0.50
						Wetness	0.50
57B:							
Croghan	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Wetness	0.50
						Slope	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
60B:							
Adirondack, somewhat poorly drained, very bouldery------	55	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Rock fragments	0.50
Adirondack, poorly drained, very bouldery-----------	30	Slight		Slight		Poorly suited	
						Wetness	1.00
						Rock fragments	0.50
61A:							
Schoharie-----------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
61B:							
Schoharie-----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
61C:							
Schoharie-----------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
61E:							
Schoharie-----------	85	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
62C:							
Becket, very bouldery-----------	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Rock fragments	0.50
Tunbridge, very bouldery-----------	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Rock fragments	0.50
62D:							
Becket, very bouldery-----------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
Tunbridge, very bouldery-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
63A:							
Wallington----------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
63B:							
Wallington----------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
64A:							
Rhinebeck-----------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
64B:							
Rhinebeck-----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
65F:							
Tunbridge, very bouldery-----------	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
Lyman---------------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
68:							
Wakeville, rarely flooded------------	85	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
72:							
Canandaigua---------	80	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
74B:							
Berkshire-----------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
74C:							
Berkshire-----------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
75:							
Lamson--------------	70	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
76:							
Niagara-------------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
77A:							
Collamer------------	80	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
77B:							
Collamer------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
77C:							
Collamer------------	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
77D:							
Collamer------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
78A:							
Arkport-------------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
78B:							
Arkport-------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
78C:							
Arkport-------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
79A:							
Roundabout----------	80	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
79B:							
Roundabout----------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
81A:							
Covert--------------	65	Slight		Slight		Moderately suited	
						Sandiness	0.50
81B:							
Covert--------------	65	Slight		Slight		Moderately suited	
						Sandiness	0.50
90A:							
Windsor-------------	80	Slight		Slight		Well suited	
90B:							
Windsor-------------	80	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90C:							
Windsor------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
90D:							
Windsor------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
90E:							
Windsor------------	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
92:							
Napoleon-----------	85	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
94:							
Naumburg, somewhat poorly drained-----	50	Slight		Slight		Poorly suited	
						Wetness	1.00
Naumburg, poorly drained-----------	35	Slight		Slight		Poorly suited	
						Wetness	1.00
95:							
Carlisle-----------	80	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
99:							
Greenwood----------	80	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
102B:							
Honeoye------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
102C:							
Honeoye------------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
102D:							
Honeoye------------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
103B:							
Honeoye------------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Urban land---------	30	Not rated		Not rated		Not rated	

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104E:							
Honeoye-------------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Cazenovia-----------	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
109B:							
Cazenovia-----------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
109C:							
Cazenovia-----------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
109D:							
Cazenovia-----------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
111B:							
Lansing-------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
111C:							
Lansing-------------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
111D:							
Lansing-------------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
111E:							
Lansing-------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
113A:							
Camroden------------	85	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
113B:							
Camroden------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
113C:							
Camroden------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50
114B:							
Pinckney------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
114C:							
Pinckney------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
114D:							
Pinckney------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
115B:							
Chadakoin-----------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
115C:							
Chadakoin-----------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
115D:							
Chadakoin-----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
115E:							
Chadakoin-----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
117A:							
Pittsfield----------	75	Slight		Slight		Moderately suited	
						Low strength	0.50
117B:							
Pittsfield----------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
117C:							
Pittsfield----------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
117D:							
Pittsfield	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
117E:							
Pittsfield	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
119B:							
Pyrities	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
119C:							
Pyrities	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
119D:							
Pyrities	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
119E:							
Pyrities	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
120C:							
Pyrities, rolling, very bouldery	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Rock fragments	0.50
						Low strength	0.50
121B:							
Worth	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Slope	0.50
121C:							
Worth	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
121D:							
Worth	85	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Low strength	0.50
121E:							
Worth	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
126A:							
Lima----------------	75	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
126B:							
Lima----------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Wetness	0.50
126C:							
Lima----------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
133B:							
Empeyville----------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Slope	0.50
133C:							
Empeyville----------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
136A:							
Kendaia-------------	65	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
136B:							
Kendaia-------------	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
144A:							
Westbury------------	90	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
144B:							
Westbury------------	90	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
146:							
Lyons---------------	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	1.00
						Low strength	0.50
150:							
Tughill, stony------	75	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	1.00

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151:							
Chippewa	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Ponding	0.50
						Low strength	0.50
152B:							
Farmington	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
153C:							
Farmington	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Rock outcrop	25	Not rated		Not rated		Not rated	
153D:							
Farmington	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
155:							
Dannemora, stony	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Sandiness	0.50
156B:							
Lairdsville, well drained	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
156C:							
Lairdsville, well drained	80	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
156E:							
Lairdsville, well drained	80	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
162B:							
Ischua	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
162C:							
Ischua	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
162D:							
Ischua	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
168B:							
Manlius	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
168C:							
Manlius	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
168D:							
Manlius	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
168E:							
Manlius	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
173B:							
Mongaup	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
173C:							
Mongaup	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
173E:							
Mongaup	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
176B:							
Nellis	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
176C:							
Nellis	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
176D:							
Nellis	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
195:							
Palms, drained	80	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
200B:							
Bice	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
200C:							
Bice	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
200D:							
Bice	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
200E:							
Bice	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
212:							
Adrian	85	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
						Sandiness	0.50
221B:							
Kalurah	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
221C:							
Kalurah	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
221D:							
Kalurah	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
221E:							
Kalurah	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
223A:							
Malone	70	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
223B:							
Malone	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
223C:							
Malone	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50
256D:							
Becket, very bouldery	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	0.50
260A:							
Ovid	75	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
260B:							
Ovid	75	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
267B:							
Greene	75	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
267C:							
Greene	75	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Wetness	1.00
						Slope	0.50
						Low strength	0.50
269:							
Greene	45	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
Tuller	35	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
295:							
Carlisle, drained	85	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	0.50
350A:							
Alton	75	Slight		Slight		Moderately suited	
						Sandiness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
350B:							
Alton---------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Slope	0.50
350C:							
Alton---------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Sandiness	0.50
355B:							
Arnot---------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
372A:							
Appleton------------	65	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
372B:							
Appleton------------	65	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
						Slope	0.50
395:							
Palms---------------	80	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
397:							
Wonsqueak-----------	85	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
398:							
Dawson--------------	85	Very severe		Very severe		Poorly suited	
		High content of organic matter	1.00	High content of organic matter	1.00	Low strength	1.00
						Wetness	1.00
						Sandiness	0.50
413B:							
Venango-------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
413C:							
Venango-------------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
414B:							
Mardin--------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
414C:							
Mardin--------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
414D:							
Mardin--------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
461:							
Marcy---------------	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
462:							
Runeberg------------	65	Slight		Slight		Poorly suited	
						Wetness	1.00
						Ponding	0.50
						Low strength	0.50
515A:							
Galway, well drained	75	Slight		Slight		Moderately suited	
						Low strength	0.50
515B:							
Galway, well drained	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
515C:							
Galway, well drained	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
565B:							
Aurora--------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
565C:							
Aurora--------------	80	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
565D:							
Aurora	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
565E:							
Aurora	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
582A:							
Amenia	75	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
582B:							
Amenia	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
747A:							
Manheim	65	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
747B:							
Manheim	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
747C:							
Manheim	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50
750B:							
Minoa	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
790A:							
Conesus	75	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
790B:							
Conesus	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
790C:							
Conesus	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
801B:							
Alton, cool	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Slope	0.50
801C:							
Alton, cool	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Sandiness	0.50
802D:							
Howard, cool	60	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Sandiness	0.50
						Low strength	0.50
Alton, cool	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
802E:							
Howard, cool	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
						Low strength	0.50
Alton, cool	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
804:							
Chippewa, stony	85	Slight		Slight		Poorly suited	
						Wetness	1.00
						Ponding	0.50
						Low strength	0.50
807A:							
Manheim, cool	65	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
807B:							
Manheim, cool	65	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
807C:							
Manheim, cool	65	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50
811B:							
Empeyville, warm	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Slope	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
811C:							
Empeyville, warm----	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
813B:							
Gretor--------------	75	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50
813C:							
Gretor--------------	75	Slight		Severe		Poorly suited	
				Slope/erodibility	0.95	Wetness	1.00
						Slope	0.50
						Low strength	0.50
814:							
Gretor--------------	45	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
Torull--------------	35	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
816B:							
Herkimer, cool------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
818B:							
Kalurah, warm-------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
818C:							
Kalurah, warm-------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
818D:							
Kalurah, warm-------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
818E:							
Kalurah, warm-------	75	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
819A:							
Kendaia, cool-------	75	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
819B:							
Kendaia, cool-------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
823A:							
Malone, warm--------	70	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
823B:							
Malone, warm--------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
						Slope	0.50
823C:							
Malone, warm--------	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
						Low strength	0.50
825B:							
Pinckney, warm------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Wetness	0.50
825C:							
Pinckney, warm------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
825D:							
Pinckney, warm------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Wetness	0.50
831:							
Tughill, stony, warm	75	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	1.00
833A:							
Westbury, warm------	90	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
833B:							
Westbury, warm------	90	Slight		Moderate		Poorly suited	
				Slope/erodibility	0.50	Wetness	1.00
						Low strength	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838B:							
Worth, warm	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Slope	0.50
838C:							
Worth, warm	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
838D:							
Worth, warm	85	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.50	Slope	1.00
						Low strength	0.50
838E:							
Worth, warm	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
842B:							
Farmington, cool	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
843D:							
Farmington, cool	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool	75	Slight		Slight		Moderately suited	
						Low strength	0.50
845B:							
Galway, cool	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
845C:							
Galway, cool	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
858A:							
Chenango, red substratum	85	Slight		Slight		Moderately suited	
						Sandiness	0.50
858B:							
Chenango, red substratum	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Sandiness	0.50
						Slope	0.50

Table 9.--Forestland Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
858C:							
Chenango, red substratum----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Sandiness	0.50
858D:							
Chenango, red substratum----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
858E:							
Chenango, red substratum----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Sandiness	0.50
982:							
Wallkill------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
						Sandiness	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 10.--Forestland Management (Part 3)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Fluvaquents, frequently flooded, warm---------------	35	Well suited		Well suited		Moderately suited	
						Low strength	0.50
2:							
Hamlin--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
4:							
Wakeville, occasionally flooded------------	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
7:							
Wayland-------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
9:							
Wenonah-------------	80	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
10:							
Otego---------------	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
12B:							
Herkimer------------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
12C:							
Herkimer------------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
13:							
Fluvaquents, frequently flooded, cool---------------	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Borosaprists--------	35	Moderately suited		Moderately suited		Poorly suited	
		Wetness	0.50	Wetness	0.50	Low strength	1.00
						Wetness	1.00
20:							
Pits, sand and gravel------------	70	Not rated		Not rated		Not rated	

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
				Rock fragments	0.50	Sandiness	0.50
24B:							
Howard--------------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
				Slope	0.50	Sandiness	0.50
				Rock fragments	0.50		
24C:							
Howard--------------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Slope	0.50	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	
27A:							
Nicholville---------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
27B:							
Nicholville---------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
28A:							
Phelps--------------	80	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
						Sandiness	0.50
28B:							
Phelps--------------	80	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
						Sandiness	0.50
30:							
Fredon, somewhat poorly drained-----	70	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
						Sandiness	0.50
Fredon, poorly drained-----------	15	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
						Sandiness	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
31:							
Halsey	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
33A:							
Alton	40	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
Urban land	30	Not rated		Not rated		Not rated	
33B:							
Alton	40	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
				Rock fragments	0.50		
Urban land	30	Not rated		Not rated		Not rated	
34D:							
Howard	60	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50	Slope	0.50
Alton	30	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
				Rock fragments	0.50		
34E:							
Howard	60	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Low strength	0.50
				Rock fragments	0.50	Sandiness	0.50
Alton	30	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
35A:							
Unadilla	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
35B:							
Unadilla	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
35C:							
Unadilla	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
36B:							
Salmon	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
38A:							
Chenango	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.50	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
38B:							
Chenango	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.50	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
38C:							
Chenango	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.50	Low strength	0.50
				Slope	0.50	Sandiness	0.50
				Sandiness	0.50		
38D:							
Chenango	85	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Low strength	0.50
				Rock fragments	0.50	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
38E:							
Chenango	85	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Rock fragments	0.50	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
39A:							
Knickerbocker	80	Well suited		Well suited		Well suited	
39B:							
Knickerbocker	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
39C:							
Knickerbocker	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
41:							
Niagara	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
42:							
Castile	85	Well suited		Moderately suited		Well suited	
				Rock fragments	0.50		
43:							
Jebavy	70	Unsuited		Moderately suited		Well suited	
		Restrictive layer	1.00	Restrictive layer	0.50		
46A:							
Colosse	85	Moderately suited		Moderately suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.50		

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
46B:							
Colosse	85	Moderately suited		Moderately suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.50		
				Slope	0.50		
46C:							
Colosse	85	Moderately suited		Moderately suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.50		
				Slope	0.50		
46D:							
Colosse	85	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Rock fragments	0.50		
47A:							
Scio	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
47B:							
Scio	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
50:							
Wareham	70	Well suited		Well suited		Well suited	
54D:							
Colton	85	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
				Rock fragments	0.50		
55A:							
Adams	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
55B:							
Adams	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
55C:							
Adams	70	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Slope	0.50	Sandiness	0.50
				Sandiness	0.50		
55D:							
Adams	70	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
55E:							
Adams	70	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Sandiness	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
56B:							
Becket, very bouldery----------	40	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Rock fragments	0.50
				Slope	0.50		
Skerry, very bouldery----------	35	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Rock fragments	0.50
56C:							
Becket, very bouldery----------	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Rock fragments	0.50
				Rock fragments	0.50		
Skerry, very bouldery----------	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Rock fragments	0.50
				Rock fragments	0.50		
57A:							
Croghan------------	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
57B:							
Croghan------------	70	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
60B:							
Adirondack, somewhat poorly drained, very bouldery------	55	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Rock fragments	0.50
				Slope	0.50		
Adirondack, poorly drained, very bouldery----------	30	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Rock fragments	0.50
61A:							
Schoharie----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
61B:							
Schoharie----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
61C:							
Schoharie----------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
61E:							
Schoharie----------	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
62C:							
Becket, very bouldery-----------	45	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Rock fragments	0.50
				Slope	0.50		
Tunbridge, very bouldery-----------	35	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.56	Rock fragments	0.50
				Rock fragments	0.50		
				Slope	0.50		
62D:							
Becket, very bouldery-----------	40	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Rock fragments	0.50
				Rock fragments	0.50	Slope	0.50
Tunbridge, very bouldery-----------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Rock fragments	0.50
				Restrictive layer	0.56	Slope	0.50
				Rock fragments	0.50		
63A:							
Wallington----------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
63B:							
Wallington----------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
64A:							
Rhinebeck-----------	80	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
64B:							
Rhinebeck-----------	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
65F:							
Tunbridge, very bouldery-----------	40	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Restrictive layer	0.56	Rock fragments	0.50
				Rock fragments	0.50		
Lyman---------------	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Restrictive layer	1.00	Slope	1.00
				Slope	1.00	Rock fragments	0.50
				Rock fragments	0.50		
68:							
Wakeville, rarely flooded-----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
72:							
Canandaigua	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
74B:							
Berkshire	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
74C:							
Berkshire	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
75:							
Lamson	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50
76:							
Niagara	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
77A:							
Collamer	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
77B:							
Collamer	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
77C:							
Collamer	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
77D:							
Collamer	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
78A:							
Arkport	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
78B:							
Arkport	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
78C:							
Arkport	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
79A:							
Roundabout	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
79B:							
Roundabout	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
81A:							
Covert	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
81B:							
Covert--------------	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
90A:							
Windsor-------------	80	Well suited		Well suited		Well suited	
90B:							
Windsor-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
90C:							
Windsor-------------	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
90D:							
Windsor-------------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
90E:							
Windsor-------------	90	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
92:							
Napoleon------------	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
94:							
Naumburg, somewhat poorly drained-----	50	Well suited		Well suited		Well suited	
Naumburg, poorly drained-----------	35	Well suited		Well suited		Well suited	
95:							
Carlisle------------	80	Not rated		Not rated		Poorly suited	
						Low strength	1.00
99:							
Greenwood-----------	80	Not rated		Not rated		Poorly suited	
						Low strength	1.00
102B:							
Honeoye-------------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
102C:							
Honeoye-------------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
102D:							
Honeoye-------------	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
103B:							
Honeoye-------------	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
103B:							
Urban land	30	Not rated		Not rated		Not rated	
104E:							
Honeoye	40	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
Cazenovia	40	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
109B:							
Cazenovia	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
109C:							
Cazenovia	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
109D:							
Cazenovia	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
111B:							
Lansing	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
111C:							
Lansing	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
111D:							
Lansing	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
111E:							
Lansing	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
113A:							
Camroden	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
113B:							
Camroden	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
113C:							
Camroden	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
114B:							
Pinckney	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
114C:							
Pinckney-----------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
114D:							
Pinckney-----------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
115B:							
Chadakoin----------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
115C:							
Chadakoin----------	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
115D:							
Chadakoin----------	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
115E:							
Chadakoin----------	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
117A:							
Pittsfield---------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
117B:							
Pittsfield---------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
117C:							
Pittsfield---------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
117D:							
Pittsfield---------	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
117E:							
Pittsfield---------	75	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
119B:							
Pyrities-----------	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
119C:							
Pyrities-----------	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
119D:							
Pyrities	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
119E:							
Pyrities	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
120C:							
Pyrities, rolling, very bouldery	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Rock fragments	0.50
				Rock fragments	0.50	Low strength	0.50
121B:							
Worth	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
121C:							
Worth	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
121D:							
Worth	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
121E:							
Worth	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
126A:							
Lima	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
126B:							
Lima	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
126C:							
Lima	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
133B:							
Empeyville	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
133C:							
Empeyville	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
136A:							
Kendaia	65	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
136B:							
Kendaia-------------	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
144A:							
Westbury------------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
144B:							
Westbury------------	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
146:							
Lyons---------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
150:							
Tughill, stony------	75	Not rated		Not rated		Poorly suited	
						Low strength	1.00
151:							
Chippewa------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
152B:							
Farmington----------	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Slope	0.50		
153C:							
Farmington----------	50	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Slope	0.50		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Slope	0.75	Slope	0.50
155:							
Dannemora, stony----	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
156B:							
Lairdsville, well drained-----------	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
156C:							
Lairdsville, well drained-----------	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
156E:							
Lairdsville, well drained-----------	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Restrictive layer	0.95	Low strength	0.50
162B:							
Ischua--------------	75	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.52	Low strength	0.50
				Slope	0.50		
162C:							
Ischua--------------	75	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.52	Low strength	0.50
				Slope	0.50		
162D:							
Ischua--------------	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Restrictive layer	0.52	Slope	0.50
168B:							
Manlius-------------	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.91	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
168C:							
Manlius-------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.91	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
168D:							
Manlius-------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.91	Low strength	0.50
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
168E:							
Manlius-------------	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Restrictive layer	0.91	Low strength	0.50
				Rock fragments	0.50		
173B:							
Mongaup-------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
173C:							
Mongaup-------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
173E:							
Mongaup-------------	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Restrictive layer	0.95	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
176B:							
Nellis	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
176C:							
Nellis	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
176D:							
Nellis	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
195:							
Palms, drained	80	Not rated		Not rated		Poorly suited	
						Low strength	1.00
200B:							
Bice	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
200C:							
Bice	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
200D:							
Bice	70	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
200E:							
Bice	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
212:							
Adrian	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
						Sandiness	0.50
221B:							
Kalurah	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
221C:							
Kalurah	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
221D:							
Kalurah	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
221E:							
Kalurah	75	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
223A:							
Malone	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
223B:							
Malone--------------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
223C:							
Malone--------------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
256D:							
Becket, very bouldery-----------	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Rock fragments	0.50
				Rock fragments	0.50	Slope	0.50
260A:							
Ovid----------------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
260B:							
Ovid----------------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
267B:							
Greene--------------	75	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.52	Low strength	0.50
				Slope	0.50		
267C:							
Greene--------------	75	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.52	Low strength	0.50
				Slope	0.50		
269:							
Greene--------------	45	Well suited		Poorly suited		Moderately suited	
				Restrictive layer	0.52	Low strength	0.50
Tuller--------------	35	Unsuited		Unsuited		Moderately suited	
		Restrictive layer	1.00	Restrictive layer	1.00	Low strength	0.50
295:							
Carlisle, drained---	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
350A:							
Alton---------------	75	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
350B:							
Alton---------------	75	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
				Rock fragments	0.50		
350C:							
Alton---------------	75	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Slope	0.50	Sandiness	0.50
				Sandiness	0.50		
				Rock fragments	0.50		

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
355B:							
Arnot	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Rock fragments	0.50		
				Slope	0.50		
372A:							
Appleton	65	Well suited		Well suited		Moderately suited	
						Low strength	0.50
372B:							
Appleton	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
395:							
Palms	80	Not rated		Not rated		Poorly suited	
						Low strength	1.00
397:							
Wonsqueak	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
398:							
Dawson	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
						Sandiness	0.50
413B:							
Venango	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
413C:							
Venango	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
414B:							
Mardin	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
414C:							
Mardin	80	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
414D:							
Mardin	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
461:							
Marcy	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
462:							
Runeberg	65	Not rated		Not rated		Moderately suited	
						Low strength	0.50
515A:							
Galway, well drained	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
515B:							
Galway, well drained	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
515C:							
Galway, well drained	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
565B:							
Aurora--------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.96	Low strength	0.50
				Slope	0.50		
565C:							
Aurora--------------	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.96	Low strength	0.50
				Slope	0.50		
565D:							
Aurora--------------	85	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.96	Low strength	0.50
				Slope	0.75	Slope	0.50
565E:							
Aurora--------------	80	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Low strength	0.50
				Restrictive layer	0.96	Slope	0.50
582A:							
Amenia--------------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
582B:							
Amenia--------------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
747A:							
Manheim-------------	65	Well suited		Well suited		Moderately suited	
						Low strength	0.50
747B:							
Manheim-------------	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
747C:							
Manheim-------------	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
750B:							
Minoa---------------	65	Well suited		Well suited		Moderately suited	
						Low strength	0.50
790A:							
Conesus-------------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
790B:							
Conesus	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
790C:							
Conesus	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
801B:							
Alton, cool	75	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
				Rock fragments	0.50		
801C:							
Alton, cool	75	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Slope	0.50	Sandiness	0.50
				Sandiness	0.50		
				Rock fragments	0.50		
802D:							
Howard, cool	60	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Low strength	0.50
				Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50	Slope	0.50
Alton, cool	30	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
				Rock fragments	0.50		
802E:							
Howard, cool	60	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Low strength	0.50
				Rock fragments	0.50	Sandiness	0.50
Alton, cool	30	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Sandiness	0.50
				Rock fragments	0.50		
804:							
Chippewa, stony	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
807A:							
Manheim, cool	65	Well suited		Well suited		Moderately suited	
						Low strength	0.50
807B:							
Manheim, cool	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
807C:							
Manheim, cool	65	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
811B:							
Empeyville, warm----	80	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
811C:							
Empeyville, warm----	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
				Rock fragments	0.50		
813B:							
Gretor--------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.88	Low strength	0.50
813C:							
Gretor--------------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.88	Low strength	0.50
				Slope	0.50		
814:							
Gretor--------------	45	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.88	Low strength	0.50
Torull--------------	35	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
816B:							
Herkimer, cool------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
818B:							
Kalurah, warm-------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
818C:							
Kalurah, warm-------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
818D:							
Kalurah, warm-------	75	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
818E:							
Kalurah, warm-------	75	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
819A:							
Kendaia, cool-------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
819B:							
Kendaia, cool-------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
823A:							
Malone, warm--------	70	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
823B:							
Malone, warm--------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
823C:							
Malone, warm--------	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
825B:							
Pinckney, warm------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
825C:							
Pinckney, warm------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
825D:							
Pinckney, warm------	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
831:							
Tughill, stony, warm	75	Not rated		Not rated		Poorly suited	
						Low strength	1.00
833A:							
Westbury, warm------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
833B:							
Westbury, warm------	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
838B:							
Worth, warm---------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
838C:							
Worth, warm---------	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
838D:							
Worth, warm---------	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
838E:							
Worth, warm---------	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
842B:							
Farmington, cool----	80	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Slope	0.50		

Table 10.--Forestland Management (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
843D:							
Farmington, cool----	45	Well suited		Unsuited		Moderately suited	
				Restrictive layer	1.00	Low strength	0.50
				Slope	0.75	Slope	0.50
Rock outcrop--------	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool--------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
45B:							
Galway, cool--------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
845C:							
Galway, cool--------	75	Well suited		Unsuited		Moderately suited	
				Restrictive layer	0.95	Low strength	0.50
				Slope	0.50		
858A:							
Chenango, red substratum---------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
858B:							
Chenango, red substratum---------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
				Slope	0.50		
858C:							
Chenango, red substratum---------	85	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Slope	0.50	Sandiness	0.50
				Sandiness	0.50		
858D:							
Chenango, red substratum---------	85	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
858E:							
Chenango, red substratum---------	85	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
				Sandiness	0.50	Sandiness	0.50
982:							
Wallkill-----------	85	Not rated		Not rated		Poorly suited	
						Low strength	1.00
						Sandiness	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 11.--Recreation (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Fluvaquents, frequently flooded, warm---------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
2:							
Hamlin--------------	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
4:							
Wakeville, occasionally flooded------------	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
7:							
Wayland-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.94	Flooding	1.00
		Slow water movement	0.94	Flooding	0.40	Slow water movement	0.94
9:							
Wenonah-------------	80	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
10:							
Otego---------------	70	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Depth to saturated zone	0.88			Flooding	0.60
			0.88				
12B:							
Herkimer------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	1.00
						Gravel content	1.00
						Depth to saturated zone	0.16

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:							
Herkimer-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Depth to saturated zone	0.16	Depth to saturated zone	0.08	Gravel content	1.00
						Depth to saturated zone	0.16
13:							
Fluvaquents, frequently flooded, cool---------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Borosaprists--------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
20:							
Pits, sand and gravel------------	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.72
24B:							
Howard--------------	85	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	0.72
24C:							
Howard--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	0.72
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	
27A:							
Nicholville---------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
27B:							
Nicholville---------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Slope	1.00
						Depth to saturated zone	0.88
28A:							
Phelps--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Gravel content	0.20
28B:							
Phelps--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.50
						Gravel content	0.20
30:							
Fredon, somewhat poorly drained-----	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	1.00
Fredon, poorly drained------------	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	1.00
31:							
Halsey--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Gravel content	0.08	Gravel content	1.00
		Gravel content	0.08				
33A:							
Alton---------------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	1.00
Urban land----------	30	Not rated		Not rated		Not rated	
33B:							
Alton---------------	40	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	1.00
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.72

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34D:							
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
34E:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.72
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
35A:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35B:							
Unadilla------------	80	Not limited		Not limited		Very limited	
						Slope	1.00
35C:							
Unadilla------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
36B:							
Salmon--------------	85	Not limited		Not limited		Very limited	
						Slope	1.00
38A:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	1.00
38B:							
Chenango------------	85	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	1.00
38C:							
Chenango------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	1.00
38D:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
38E:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
39A:							
Knickerbocker-------	80	Not limited		Not limited		Not limited	
39B:							
Knickerbocker-------	80	Not limited		Not limited		Very limited	
						Slope	1.00

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
39C:							
Knickerbocker	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
41:							
Niagara	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
42:							
Castile	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	0.68	Gravel content	1.00
						Depth to saturated zone	0.95
43:							
Jebavy	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
		Depth to pan	1.00	Depth to pan	1.00	Ponding	1.00
46A:							
Colosse	85	Not limited		Not limited		Not limited	
46B:							
Colosse	85	Not limited		Not limited		Very limited	
						Slope	1.00
46C:							
Colosse	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
46D:							
Colosse	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
47A:							
Scio	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
47B:							
Scio	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
						Slope	0.50
50:							
Wareham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
54D:							
Colton	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.07	Gravel content	0.07	Gravel content	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55A:							
Adams	65	Not limited		Not limited		Not limited	
55B:							
Adams	65	Not limited		Not limited		Very limited	
						Slope	1.00
55C:							
Adams	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
55D:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
55E:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
56B:							
Becket, very bouldery	40	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	1.00
		Depth to pan	0.15	Depth to pan	0.15	Content of large stones	0.53
						Depth to pan	0.16
Skerry, very bouldery	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
		Depth to saturated zone	0.67	Content of large stones	0.53	Depth to saturated zone	0.67
		Content of large stones	0.53	Depth to saturated zone	0.35	Content of large stones	0.53
						Slope	0.50
56C:							
Becket, very bouldery	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
		Depth to pan	0.15	Depth to pan	0.15	Depth to pan	0.16
Skerry, very bouldery	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Depth to saturated zone	0.67	Content of large stones	0.53	Depth to pan	0.71
		Content of large stones	0.53	Depth to saturated zone	0.35	Depth to saturated zone	0.67
		Slope	0.04	Slope	0.04	Content of large stones	0.53
57A:							
Croghan	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to saturated zone	0.77

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
57B:							
Croghan	70	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Slope	1.00
						Depth to saturated zone	0.77
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of large stones	0.53	Content of large stones	0.53	Slope	0.88
						Content of large stones	0.53
Adirondack, poorly drained, very bouldery	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
61A:							
Schoharie	85	Somewhat limited		Somewhat limited		Somewhat limited	
61B:							
Schoharie	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.50
						Depth to saturated zone	0.07
61C:							
Schoharie	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.96
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
61E:							
Schoharie	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
		Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
62C:							
Becket, very bouldery	45	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	1.00
		Depth to pan	0.15	Depth to pan	0.15	Content of large content	0.53
		Slope	0.04	Slope	0.04	Depth to pan	0.16

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
62C:							
Tunbridge, very bouldery	35	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	1.00
		Slope	0.04	Slope	0.04	Content of large stones	0.53
						Depth to bedrock	0.01
62D:							
Becket, very bouldery	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
		Depth to pan	0.15	Depth to pan	0.15	Depth to pan	0.16
Tunbridge, very bouldery	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
						Depth to bedrock	0.01
63A:							
Wallington	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
63B:							
Wallington	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
						Slope	0.50
64A:							
Rhinebeck	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
64B:							
Rhinebeck	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
65F:							
Tunbridge, very bouldery	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
						Depth to bedrock	0.01

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F:							
Lyman---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	0.53	Content of large stones	0.53	Gravel content	1.00
		Gravel content	0.04	Gravel content	0.04	Content of large stones	0.53
68:							
Wakeville, rarely flooded------------	85	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00				
72:							
Canandaigua---------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
74B:							
Berkshire-----------	70	Not limited		Not limited		Very limited	
						Slope	1.00
74C:							
Berkshire-----------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
75:							
Lamson--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
76:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
77A:							
Collamer------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.35	Slow water movement	0.35	Slow water movement	0.35
77B:							
Collamer------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.35	Slow water movement	0.35	Depth to saturated zone	0.98
						Slow water movement	0.35

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
77C:							
Collamer	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Slow water movement	0.35	Slow water movement	0.35	Slow water movement	0.35
77D:							
Collamer	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.35	Slow water movement	0.35	Slow water movement	0.35
78A:							
Arkport	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.24	Too sandy	0.24	Too sandy	0.24
78B:							
Arkport	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.24	Too sandy	0.24	Slope	1.00
						Too sandy	0.24
78C:							
Arkport	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Too sandy	0.24	Too sandy	0.24	Too sandy	0.24
79A:							
Roundabout	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slow water movement	0.49	Slow water movement	0.49	Slow water movement	0.49
79B:							
Roundabout	80	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slow water movement	0.49	Slow water movement	0.49	Slope	0.50
						Slow water movement	0.49
81A:							
Covert	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
81B:							
Covert	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Slope	0.50
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Too sandy	0.50
						Depth to saturated zone	0.39

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90A:							
Windsor	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Too sandy	0.82
90B:							
Windsor	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Slope	0.88
						Too sandy	0.82
90C:							
Windsor	80	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.82	Too sandy	0.82	Slope	1.00
		Slope	0.63	Slope	0.63	Too sandy	0.82
90D:							
Windsor	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.82	Too sandy	0.82	Too sandy	0.82
90E:							
Windsor	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.82	Too sandy	0.82	Too sandy	0.82
92:							
Napoleon	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
94:							
Naumburg, somewhat poorly drained	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Naumburg, poorly drained	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
95:							
Carlisle	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
99:							
Greenwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
102B:							
Honeoye	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
						Depth to pan	0.84
						Gravel content	0.20

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
102C:							
Honeoye------------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	0.84
						Gravel content	0.20
102D:							
Honeoye------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.84	Depth to pan	0.84	Depth to pan	0.84
						Gravel content	0.20
103B:							
Honeoye------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	0.88
						Depth to pan	0.84
						Gravel content	0.20
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.84	Depth to pan	0.84	Depth to pan	0.84
						Gravel content	0.20
Cazenovia-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
109B:							
Cazenovia-----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
						Slope	0.88
109C:							
Cazenovia-----------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.63	Slope	0.63	Slow water movement	0.96
109D:							
Cazenovia-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111B:							
Lansing	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.06	Depth to pan	0.06	Slope	1.00
						Depth to pan	0.06
111C:							
Lansing	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Depth to pan	0.06	Depth to pan	0.06	Depth to pan	0.06
111D:							
Lansing	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.06	Depth to pan	0.06	Depth to pan	0.06
111E:							
Lansing	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.06	Depth to pan	0.06	Depth to pan	0.06
113A:							
Camroden	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.90	Depth to pan	1.00
113B:							
Camroden	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.90	Depth to pan	1.00
						Slope	1.00
113C:							
Camroden	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.90	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	1.00
114B:							
Pinckney	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to pan	0.84
						Depth to saturated zone	0.67
114C:							
Pinckney	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
		Depth to saturated zone	0.67	Slope	0.63	Depth to pan	0.84
		Slope	0.63	Depth to saturated zone	0.35	Depth to saturated zone	0.67

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114D:							
Pinckney------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.84	Depth to pan	0.84	Depth to pan	0.84
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to saturated zone	0.67
115B:							
Chadakoin-----------	75	Not limited		Not limited		Very limited	
						Slope	1.00
115C:							
Chadakoin-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
115D:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
115E:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
117A:							
Pittsfield----------	75	Not limited		Not limited		Not limited	
117B:							
Pittsfield----------	75	Not limited		Not limited		Very limited	
						Slope	1.00
117C:							
Pittsfield----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
117D:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
117E:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
119B:							
Pyrities------------	65	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.60	Slow water movement	0.60	Slope	1.00
						Slow water movement	0.60
119C:							
Pyrities------------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
119D:							
Pyrities------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
119E:							
Pyrities	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
120C:							
Pyrities, rolling, very bouldery	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
		Content of large stones	0.29	Content of large stones	0.29	Content of large stones	0.29
121B:							
Worth	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Depth to pan	0.71
						Gravel content	0.18
						Depth to saturated zone	0.10
121C:							
Worth	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
121D:							
Worth	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
121E:							
Worth	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
126A:							
Lima	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Gravel content	1.00
		Depth to pan	0.64	Depth to pan	0.64	Depth to saturated zone	0.98
		Gravel content	0.01	Gravel content	0.01	Depth to pan	0.65

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
126B:							
Lima----------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Depth to pan	0.64	Depth to pan	0.64	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Depth to saturated zone	0.98
						Depth to pan	0.65
126C:							
Lima----------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Depth to pan	0.64	Depth to pan	0.64	Gravel content	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Gravel content	0.01	Gravel content	0.01	Depth to pan	0.65
133B:							
Empeyville----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.83	Slope	1.00
						Depth to pan	1.00
133C:							
Empeyville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.83	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	1.00
136A:							
Kendaia-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Gravel content	0.22
136B:							
Kendaia-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
						Gravel content	0.22
144A:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
144B:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
						Slope	0.88

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
146:							
Lyons	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth t saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Gravel content	0.22
150:							
Tughill, stony	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Content of large stones	0.11
151:							
Chippewa	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
		Depth to pan	1.00	Depth to pan	1.00	Ponding	1.00
152B:							
Farmington	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.88
153C:							
Farmington	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to bedrock	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
153D:							
Farmington	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
155:							
Dannemora, stony	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
						Gravel content	0.99
156B:							
Lairdsville, well drained	80	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	1.00
						Depth to bedrock	0.95

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
156C:							
Lairdsville, well drained-----------	80	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
						Depth to bedrock	0.95
156E:							
Lairdsville, well drained-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Depth to bedrock	0.95
162B:							
Ischua--------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.56	Depth to saturated zone	0.28	Slope	0.88
						Depth to saturated zone	0.56
						Depth to bedrock	0.01
162C:							
Ischua--------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	0.94
		Depth to saturated zone	0.56	Depth to saturated zone	0.28	Depth to saturated zone	0.56
						Depth to bedrock	0.01
162D:							
Ischua--------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
		Depth to saturated zone	0.56	Depth to saturated zone	0.28	Depth to saturated zone	0.56
						Depth to bedrock	0.01
168B:							
Manlius-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Slope	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
168C:							
Manlius-------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168D:							
Manlius	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
168E:							
Manlius	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Depth to bedrock	0.65
						Content of large stones	0.01
173B:							
Mongaup	75	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.80
173C:							
Mongaup	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.80
173E:							
Mongaup	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.80
176B:							
Nellis	70	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.60	Slow water movement	0.60	Slope	1.00
						Slow water movement	0.60
176C:							
Nellis	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
176D:							
Nellis	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
195:							
Palms, drained	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
200B:							
Bice	70	Not limited		Not limited		Very limited	
						Slope	1.00
200C:							
Bice	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
200D:							
Bice	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
200E:							
Bice	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
212:							
Adrian	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
221B:							
Kalurah	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.26	Slow water movement	0.26	Depth to saturated zone	0.98
						Slow water movement	0.26
221C:							
Kalurah	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
221D:							
Kalurah	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
221E:							
Kalurah	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
223A:							
Malone	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Depth to pan	0.01	Depth to pan	0.01	Depth to pan	0.01

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
223B:							
Malone	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Depth to pan	0.01	Depth to pan	0.01	Slope	1.00
						Depth to pan	0.01
223C:							
Malone	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
		Depth to pan	0.01	Depth to pan	0.01	Depth to pan	0.01
256D:							
Becket, very bouldery	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Content of large stones	0.53
		Depth to pan	0.15	Depth to pan	0.15	Depth to pan	0.16
						Content of large stones	0.01
260A:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
260B:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.88
267B:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.88
						Depth to bedrock	0.01
267C:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.16	Slope	0.16	Slow water movement	0.96
						Depth to bedrock	0.01

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
269:							
Greene	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
Tuller	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.49	Slow water movement	0.49	Gravel content	1.00
						Slow water movement	0.49
295:							
Carlisle, drained	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
350A:							
Alton	75	Not limited		Not limited		Somewhat limited	
						Gravel content	1.00
350B:							
Alton	75	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	1.00
350C:							
Alton	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	1.00
355B:							
Arnot	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	1.00
						Gravel content	1.00
372A:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Gravel content	0.22
372B:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
						Gravel content	0.22

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
395:							
Palms	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zine	1.00	Ponding	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
397:							
Wonsqueak	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
398:							
Dawson	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
413B:							
Venango	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
						Slope	0.50
						Gravel content	0.21
413C:							
Venango	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	0.71
						Gravel content	0.21
414B:							
Mardin	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.90	Depth to pan	0.90	Slope	1.00
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to pan	0.90
						Depth to saturated zone	0.77
414C:							
Mardin	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.90	Depth to pan	0.90	Slope	1.00
		Depth to saturated zone	0.77	Slope	0.63	Depth to pan	0.90
		Slope	0.63	Depth to saturated zone	0.43	Depth to saturated zone	0.77
414D:							
Mardin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.90	Depth to pan	0.90	Depth to pan	0.90
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to saturated zone	0.77

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
461:							
Marcy	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
						Gravel content	0.22
462:							
Runeberg	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
515A:							
Galway, well drained	75	Not limited		Not limited		Not limited	
515B:							
Galway, well drained	75	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.80
515C:							
Galway, well drained	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.80
565B:							
Aurora	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Depth to bedrock	0.97
						Slow water movement	0.96
565C:							
Aurora	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.63	Slope	0.63	Depth to bedrock	0.97
						Slow water movement	0.96
565D:							
Aurora	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to bedrock	0.97
						Slow water movement	0.96

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
565E:							
Aurora	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to bedrock	0.97
						Slow water movement	0.96
582A:							
Amenia	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
582B:							
Amenia	75	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Slow water movement	0.96
						Depth to saturated zone	0.88
747A:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
747B:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.88
747C:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
750B:							
Minoa	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.12
790A:							
Conesus	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to saturated zone	0.77
						Gravel content	0.04

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
790B:							
Conesus	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	0.43	Slope	0.88
						Depth to saturated zone	0.77
						Gravel content	0.04
790C:							
Conesus	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.77	Slope	0.63	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.43	Depth to saturated zone	0.77
						Gravel content	0.04
801B:							
Alton, cool	75	Not limited		Not limited		Very limited	
						Slope	1.00
						Gravel content	1.00
801C:							
Alton, cool	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Gravel content	1.00
802D:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.72
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
802E:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.72
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
804:							
Chippewa, stony	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
		Depth to pan	1.00	Depth to pan	1.00	Ponding	1.00
807A:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
807B:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.88
807C:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
811B:							
Empeyville, warm	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.83	Slope	1.00
						Depth to pan	1.00
811C:							
Empeyville, warm	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to pan	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to saturated zone	0.83	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	1.00
813B:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.54
						Slope	0.50
						Gravel content	0.22
						Slow water movement	0.15
813C:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.54
						Gravel content	0.22
						Slow water movement	0.15
814:							
Gretor	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.22
						Slow water movement	0.15

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
814:							
Torull	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
816B:							
Herkimer, cool	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	1.00
						Gravel content	1.00
						Depth to saturated zone	0.16
818B:							
Kalurah, warm	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slow water movement	0.26	Slow water movement	0.26	Depth to saturated zone	0.98
						Slow water movement	0.26
818C:							
Kalurah, warm	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
818D:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
818E:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
819A:							
Kendaia, cool	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Gravel content	0.22

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
819B:							
Kendaia, cool-------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
						Gravel content	0.22
823A:							
Malone, warm--------	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Depth to pan	0.01	Depth to pan	0.01	Depth to pan	0.01
823B:							
Malone, warm--------	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Depth to pan	0.01	Depth to pan	0.01	Slope	1.00
						Depth to pan	0.01
823C:							
Malone, warm--------	70	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
		Depth to pan	0.01	Depth to pan	0.01	Depth to pan	0.01
825B:							
Pinckney, warm------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to pan	0.84
						Depth to saturated zone	0.67
825C:							
Pinckney, warm------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.84	Depth to pan	0.84	Slope	1.00
		Depth to saturated zone	0.67	Slope	0.63	Depth to pan	0.84
		Slope	0.63	Depth to saturated zone	0.35	Depth to saturated zone	0.67
825D:							
Pinckney, warm------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.84	Depth to pan	0.84	Depth to pan	0.84
		Depth to saturated zone	0.67	Depth to saturated zone	0.35	Depth to saturated zone	0.67
831:							
Tughill, stony, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Content of large stones	0.11

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
833A:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
833B:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to pan	1.00	Depth to pan	1.00	Depth to pan	1.00
						Slope	0.88
838B:							
Worth, warm---------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Depth to pan	0.71
						Gravel content	0.18
						Depth to saturated zone	0.10
838C:							
Worth, warm---------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to pan	0.71	Depth to pan	0.71	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
838D:							
Worth, warm---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
838E:							
Worth, warm---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to pan	0.71	Depth to pan	0.71	Depth to pan	0.71
		Depth to saturated zone	0.10	Depth to saturated zone	0.05	Gravel content	0.18
						Depth to saturated zone	0.10
842B:							
Farmington, cool----	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Slope	0.88
843D:							
Farmington, cool----	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool--------	75	Not limited		Not limited		Not limited	

Table 11.--Recreation (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
845B:							
Galway, cool	75	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.80
845C:							
Galway, cool	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.80
858A:							
Chenango, red substratum	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.05	Gravel content	0.05	Gravel content	1.00
858B:							
Chenango, red substratum	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.05	Gravel content	0.05	Slope	1.00
						Gravel content	1.00
858C:							
Chenango, red substratum	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.05	Gravel content	0.05	Gravel content	1.00
858D:							
Chenango, red substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.05	Gravel content	0.05	Gravel content	1.00
858E:							
Chenango, red substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.05	Gravel content	0.05	Gravel content	1.00
982:							
Wallkill	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—Recreation (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	0.01
Fluvaquents, frequently flooded, warm	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
2:							
Hamlin	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
4:							
Wakeville, occasionally flooded	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Flooding	0.60
7:							
Wayland	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
9:							
Wenonah	80	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
10:							
Otego	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Flooding	0.60
						Depth to saturated zone	0.56
12B:							
Herkimer	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.08
12C:							
Herkimer	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to saturated zone	0.08

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
13:							
Fluvaquents, frequently flooded, cool----------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Borosaprists--------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
20:							
Pits, sand and gravel-------------	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Not limited		Not limited		Not limited	
24B:							
Howard--------------	85	Not limited		Not limited		Not limited	
24C:							
Howard--------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	
27A:							
Nicholville---------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
27B:							
Nicholville---------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
28A:							
Phelps--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
28B:							
Phelps--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
30:							
Fredon, somewhat poorly drained-----	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fredon, poorly drained-----------	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
31:							
Halsey--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.08
33A:							
Alton---------------	40	Not limited		Not limited		Somewhat limited	
						Droughty	0.21
Urban land----------	30	Not rated		Not rated		Not rated	
33B:							
Alton---------------	40	Not limited		Not limited		Somewhat limited	
						Droughty	0.21
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Alton---------------	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.21
34E:							
Howard--------------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
Alton---------------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Droughty	0.21
35A:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35B:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35C:							
Unadilla------------	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
36B:							
Salmon--------------	85	Not limited		Not limited		Not limited	

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38A:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.15
38B:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.15
38C:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.15
38D:							
Chenango------------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.15
38E:							
Chenango------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Droughty	0.15
39A:							
Knickerbocker-------	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.04
39B:							
Knickerbocker-------	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.04
39C:							
Knickerbocker-------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.04
41:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
42:							
Castile-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
43:							
Jebavy--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
						Depth to pan	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Droughty	1.00
46A:							
Colosse-------------	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.76

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
46B:							
Colosse	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.76
46C:							
Colosse	85	Not limited		Not limited		Somewhat limited	
						Droughty	0.76
						Slope	0.63
46D:							
Colosse	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.76
47A:							
Scio	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
47B:							
Scio	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
50:							
Wareham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Droughty	0.02
54D:							
Colton	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.82	Too sandy	0.01	Slope	1.00
		Too sandy	0.01			Droughty	1.00
						Gravel content	0.07
55A:							
Adams	65	Not limited		Not limited		Somewhat limited	
						Droughty	0.91
55B:							
Adams	65	Not limited		Not limited		Somewhat limited	
						Droughty	0.91
55C:							
Adams	70	Not limited		Not limited		Somewhat limited	
						Droughty	0.91
						Slope	0.63
55D:							
Adams	70	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.91
55E:							
Adams	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Droughty	0.91

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
56B:							
Becket, very bouldery-----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Depth to pan	0.15
						Content of large stones	0.01
						Droughty	0.01
Skerry, very bouldery-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Depth to pan	0.71
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
56C:							
Becket, very bouldery-----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	0.63
						Depth to pan	0.15
						Content of large stones	0.01
						Droughty	0.01
Skerry, very bouldery-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Depth to pan	0.71
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to saturated zone	0.35
						Slope	0.04
57A:							
Croghan-------------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Droughty	0.50
						Depth to saturated zone	0.43
57B:							
Croghan-------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Droughty	0.50
						Depth to saturated zone	0.43
60B:							
Adirondack, somewhat poorly drained, very bouldery------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of large stones	0.53	Content of large stones	0.53		
Adirondack, poorly drained, very bouldery-----------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of large stones	0.53	Content of large stones	0.53		

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
61A:							
Schoharie----------	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
61B:							
Schoharie----------	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.03
61C:							
Schoharie----------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
						Depth to saturated zone	0.03
61E:							
Schoharie----------	85	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.22	Depth to saturated zone	0.03
62C:							
Becket, very bouldery----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Depth to pan	0.15
						Slope	0.04
						Content of large stones	0.01
						Droughty	0.01
Tunbridge, very bouldery----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	0.04
						Depth to bedrock	0.01
62D:							
Becket, very bouldery----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Content of large stones	0.53	Slope	1.00
		Content of large stones	0.53			Depth to pan	0.15
						Content of large stones	0.01
						Droughty	0.01
Tunbridge, very bouldery----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Content of large stones	0.53	Slope	1.00
		Content of large stones	0.53			Depth to bedrock	0.01
63A:							
Wallington---------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.54

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
63B:							
Wallington----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.54
64A:							
Rhinebeck-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
64B:							
Rhinebeck-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
65F:							
Tunbridge, very bouldery-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Depth to bedrock	0.01
Lyman---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.53	Content of large stones	0.53	Depth to bedrock	1.00
						Droughty	0.70
						Gravel content	0.04
						Content of large stones	0.01
68:							
Wakeville, rarely flooded------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
72:							
Canandaigua---------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
74B:							
Berkshire-----------	70	Not limited		Not limited		Not limited	
74C:							
Berkshire-----------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.63
75:							
Lamson--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
76:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
77A:							
Collamer	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
77B:							
Collamer	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
77C:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.63
77D:							
Collamer	80	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
		Slope	0.08				
78A:							
Arkport	85	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.24	Too sandy	0.24		
78B:							
Arkport	85	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.24	Too sandy	0.24		
78C:							
Arkport	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.24	Too sandy	0.24	Slope	0.63
79A:							
Roundabout	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
79B:							
Roundabout	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
81A:							
Covert	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Droughty	0.47
						Depth to saturated zone	0.19
81B:							
Covert	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Droughty	0.47
						Depth to saturated zone	0.19
90A:							
Windsor	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Droughty	0.42

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
90B:							
Windsor	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Droughty	0.42
90C:							
Windsor	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Slope	0.63
						Droughty	0.42
90D:							
Windsor	80	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.82	Too sandy	0.82	Slope	1.00
		Slope	0.50			Droughty	0.42
90E:							
Windsor	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.82	Slope	1.00
		Too sandy	0.82	Slope	0.22	Droughty	0.42
92:							
Napoleon	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
94:							
Naumburg, somewhat poorly drained	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Naumburg, poorly drained	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
95:							
Carlisle	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
99:							
Greenwood	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
102B:							
Honeoye	75	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.84
						Droughty	0.01
102C:							
Honeoye	75	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.84
						Slope	0.63
						Droughty	0.01

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
102D:							
Honeoye-------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to pan	0.84
						Droughty	0.01
103B:							
Honeoye-------------	40	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.84
						Droughty	0.01
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye-------------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to pan	0.84
						Droughty	0.01
Cazenovia-----------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44	Slope	0.01	Depth to saturated zone	0.75
109B:							
Cazenovia-----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
109C:							
Cazenovia-----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Slope	0.63
109D:							
Cazenovia-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44			Depth to saturated zone	0.75
111B:							
Lansing-------------	75	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.06
111C:							
Lansing-------------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to pan	0.06
111D:							
Lansing-------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to pan	0.06
111E:							
Lansing-------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to pan	0.06

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
113A:							
Camroden------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to pan	1.00
						Depth to saturated zone	0.90
						Droughty	0.53
113B:							
Camroden------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to pan	1.00
						Depth to saturated zone	0.90
						Droughty	0.53
113C:							
Camroden------------	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to pan	1.00
						Depth to saturated zone	0.90
						Slope	0.63
						Droughty	0.53
114B:							
Pinckney------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to pan	0.84
						Depth to saturated zone	0.35
114C:							
Pinckney------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to pan	0.84
						Slope	0.63
						Depth to saturated zone	0.35
114D:							
Pinckney------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.04	Slope	1.00
		Depth to saturated zone	0.04			Depth to pan	0.84
						Depth to saturated zone	0.35
115B:							
Chadakoin-----------	75	Not limited		Not limited		Not limited	
115C:							
Chadakoin-----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.63
115D:							
Chadakoin-----------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
115E:							
Chadakoin-----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
117A:							
Pittsfield----------	75	Not limited		Not limited		Not limited	

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
117B:							
Pittsfield----------	75	Not limited		Not limited		Not limited	
117C:							
Pittsfield----------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
117D:							
Pittsfield----------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
117E:							
Pittsfield----------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
119B:							
Pyrities------------	65	Not limited		Not limited		Not limited	
119C:							
Pyrities------------	65	Not limited		Not limited		Somewhat limited	
						Slope	0.63
119D:							
Pyrities------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
119E:							
Pyrities------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
120C:							
Pyrities, rolling, very bouldery------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Content of large stones	0.29	Content of large stones	0.29	Slope	0.63
121B:							
Worth---------------	85	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05
121C:							
Worth---------------	85	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.71
						Slope	0.63
						Droughty	0.05
						Depth to saturated zone	0.05
121D:							
Worth---------------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
121E:							
Worth	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05
126A:							
Lima	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Depth to pan	0.64
						Droughty	0.06
						Gravel content	0.01
126B:							
Lima	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Depth to pan	0.64
						Droughty	0.06
						Gravel content	0.01
126C:							
Lima	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Depth to pan	0.64
						Slope	0.63
						Droughty	0.06
						Gravel content	0.01
133B:							
Empeyville	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to pan	1.00
						Depth to saturated zone	0.83
						Droughty	0.47
133C:							
Empeyville	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to pan	1.00
						Depth to saturated zone	0.83
						Slope	0.63
						Droughty	0.47
136A:							
Kendaia	65	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
136B:							
Kendaia	65	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
144A:							
Westbury-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	1.00
						Droughty	0.22
144B:							
Westbury-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	1.00
						Droughty	0.22
146:							
Lyons---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
150:							
Tughill, stony------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Content of large stones	0.11
151:							
Chippewa------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.74
152B:							
Farmington----------	80	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
153C:							
Farmington----------	50	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Slope	0.63
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	1.00
						Droughty	1.00

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
155:							
Dannemora, stony----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.99
156B:							
Lairdsville, well drained-----------	80	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.95
						Droughty	0.29
156C:							
Lairdsville, well drained-----------	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.95
						Slope	0.63
						Droughty	0.29
156E:							
Lairdsville, well drained-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
		Water erosion	1.00	Slope	0.04	Depth to bedrock	0.95
						Droughty	0.29
162B:							
Ischua--------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.01	Depth to saturated zone	0.28
						Depth to bedrock	0.01
162C:							
Ischua--------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.01	Slope	0.63
						Depth to saturated zone	0.28
						Depth to bedrock	0.01
162D:							
Ischua--------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.01	Slope	1.00
		Depth to saturated zone	0.01			Depth to saturated zone	0.28
						Depth to bedrock	0.01
168B:							
Manlius-------------	80	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
168C:							
Manlius-------------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.65
						Slope	0.63
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01
168D:							
Manlius-------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01
168E:							
Manlius-------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01
173B:							
Mongaup-------------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Droughty	0.19
173C:							
Mongaup-------------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Slope	0.63
						Droughty	0.19
173E:							
Mongaup-------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to bedrock	0.80
						Droughty	0.19
176B:							
Nellis--------------	70	Not limited		Not limited		Not limited	
176C:							
Nellis--------------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.63
176D:							
Nellis--------------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
195:							
Palms, drained------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
200B:							
Bice----------------	70	Not limited		Not limited		Not limited	
200C:							
Bice----------------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.63
200D:							
Bice----------------	70	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
200E:							
Bice----------------	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
212:							
Adrian--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
221B:							
Kalurah-------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
221C:							
Kalurah-------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Slope	0.63
221D:							
Kalurah-------------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	1.00
		Slope	0.08			Depth to saturated zone	0.75
221E:							
Kalurah-------------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44	Slope	0.01	Depth to saturated zone	0.75
223A:							
Malone--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Depth to pan	0.01
223B:							
Malone--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Depth to pan	0.01

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
223C:							
Malone	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Slope	0.63
						Depth to pan	0.01
256D:							
Becket, very bouldery	80	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.53	Content of large stones	0.53	Slope	1.00
		Slope	0.50			Depth to pan	0.15
						Content of large stones	0.01
						Droughty	0.01
260A:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
260B:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
267B:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.01
267C:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.16
						Depth to bedrock	0.01
269:							
Greene	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.01
Tuller	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Droughty	1.00
						Depth to bedrock	1.00
295:							
Carlisle, drained	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
350A:							
Alton	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.21

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
350B:							
Alton---------------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.21
350C:							
Alton---------------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.21
355B:							
Arnot---------------	75	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.99
372A:							
Appleton------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
372B:							
Appleton------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
395:							
Palms---------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
397:							
Wonsqueak-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
398:							
Dawson--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
413B:							
Venango-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	0.71
413C:							
Venango-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	0.71
						Slope	0.63
414B:							
Mardin--------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to pan	0.90
						Depth to saturated zone	0.43
						Droughty	0.24

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
414C:							
Mardin	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to pan	0.90
						Slope	0.63
						Depth to saturated zone	0.43
						Droughty	0.24
414D:							
Mardin	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.08	Slope	1.00
		Depth to saturated zone	0.08			Depth to pan	0.90
						Depth to saturated zone	0.43
						Droughty	0.24
461:							
Marcy	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to pan	1.00
						Depth to saturated zone	1.00
						Droughty	0.92
462:							
Runeberg	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
515A:							
Galway, well drained	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Droughty	0.07
515B:							
Galway, well drained	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Droughty	0.07
515C:							
Galway, well drained	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Slope	0.63
						Droughty	0.07
565B:							
Aurora	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to bedrock	0.97
						Depth to saturated zone	0.75
						Droughty	0.47
565C:							
Aurora	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to bedrock	0.97
						Depth to saturated zone	0.75
						Slope	0.63
						Droughty	0.47

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
565D:							
Aurora	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44			Depth to bedrock	0.97
						Depth to saturated zone	0.75
						Droughty	0.47
565E:							
Aurora	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44	Slope	0.22	Depth to bedrock	0.97
						Depth to saturated zone	0.75
						Droughty	0.47
582A:							
Amenia	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
582B:							
Amenia	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
747A:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
747B:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
747C:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.04
750B:							
Minoa	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
790A:							
Conesus	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43
790B:							
Conesus	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
790C:							
Conesus-------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.08	Depth to saturated zone	0.08	Slope	0.63
						Depth to saturated zone	0.43
801B:							
Alton, cool---------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.21
801C:							
Alton, cool---------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Droughty	0.21
802D:							
Howard, cool--------	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Alton, cool---------	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Droughty	0.21
802E:							
Howard, cool--------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
Alton, cool---------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Droughty	0.21
804:							
Chippewa, stony-----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
						Depth to pan	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Droughty	0.74
807A:							
Manheim, cool-------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
807B:							
Manheim, cool-------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
807C:							
Manheim, cool-------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.04

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
811B:							
Empeyville, warm----	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to pan	1.00
						Depth to saturated zone	0.83
						Droughty	0.47
811C:							
Empeyville, warm----	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Depth to saturated zone	0.62	Depth to pan	1.00
						Depth to saturated zone	0.83
						Slope	0.63
						Droughty	0.47
813B:							
Gretor--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.54
813C:							
Gretor--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.63
						Depth to bedrock	0.54
814:							
Gretor--------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.54
Torull--------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	1.00
						Droughty	0.99
816B:							
Herkimer, cool------	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.08
818B:							
Kalurah, warm-------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
818C:							
Kalurah, warm-------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Slope	0.63

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
818D:							
Kalurah, warm-------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	1.00
		Slope	0.08			Depth to saturated zone	0.75
818E:							
Kalurah, warm-------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.44	Slope	1.00
		Depth to saturated zone	0.44	Slope	0.01	Depth to saturated zone	0.75
819A:							
Kendaia, cool-------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
819B:							
Kendaia, cool-------	70	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
823A:							
Malone, warm--------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Depth to pan	0.01
823B:							
Malone, warm--------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Depth to pan	0.01
823C:							
Malone, warm--------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Depth to saturated zone	0.96
						Slope	0.63
						Depth to pan	0.01
825B:							
Pinckney, warm------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to pan	0.84
						Depth to saturated zone	0.35
825C:							
Pinckney, warm------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.04	Depth to saturated zone	0.04	Depth to pan	0.84
						Slope	0.63
						Depth to saturated zone	0.35
825D:							
Pinckney, warm------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Depth to saturated zone	0.04	Slope	1.00
		Depth to saturated zone	0.04			Depth to pan	0.84
						Depth to saturated zone	0.35

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
831:							
Tughill, stony, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Content of large stones	0.11
833A:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	1.00
						Droughty	0.22
833B:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to pan	1.00
						Droughty	0.22
838B:							
Worth, warm---------	85	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05
838C:							
Worth, warm---------	85	Not limited		Not limited		Somewhat limited	
						Depth to pan	0.71
						Slope	0.63
						Droughty	0.05
						Depth to saturated zone	0.05
838D:							
Worth, warm---------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05
838E:							
Worth, warm---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to pan	0.71
						Droughty	0.05
						Depth to saturated zone	0.05
842B:							
Farmington, cool----	80	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
843D:							
Farmington, cool----	45	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	1.00
						Droughty	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool--------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Droughty	0.07
845B:							
Galway, cool--------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Droughty	0.07
845C:							
Galway, cool--------	75	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.80
						Slope	0.63
						Droughty	0.07
858A:							
Chenango, red substratum---------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.05
						Droughty	0.01
858B:							
Chenango, red substratum---------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.05
						Droughty	0.01
858C:							
Chenango, red substratum---------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Gravel content	0.05
						Droughty	0.01
858D:							
Chenango, red substratum---------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Gravel content	0.05
						Droughty	0.01
858E:							
Chenango, red substratum---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Gravel content	0.05
						Droughty	0.01

Table 12.—Recreation (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
982:							
Wallkill------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 13.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
1: Udifluvents, frequently Flooded.										
Fluvaquents, frequently flooded, warm.										
2: Hamlin	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
4: Wakeville, occasionally flooded	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
7: Wayland	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
9: Wenonah	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
10: Otego	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
12B: Herkimer	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
12C: Herkimer	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
13: Fluvaquents, frequently flooded, cool.										
Borosaprists.										
20: Pits, sand and gravel.										
21: Udorthents, refuse substratum.										
22: Udorthents, smoothed.										
23: Urban land.										
24A: Howard	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Open-land wild-life	Wood-land wild-life	Wetland wild-life
24B:										
Howard	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
24C:										
Howard	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
25:										
Pits, quarry.										
27A:										
Nicholville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
27B:										
Nicholville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
28A:										
Phelps	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
28B:										
Phelps	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
30:										
Fredon, somewhat poorly drained	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Fredon, poorly drained	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
31:										
Halsey	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
33A:										
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Urban land.										
33B:										
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Urban land.										
34D:										
Howard	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
34E:										
Howard	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
35A:										
Unadilla	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
35B:										
Unadilla	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
35C:										
Unadilla	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
36B:										
Salmon	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
38A:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
38B:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
38C:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
38D:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
38E:										
Chenango	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
39A:										
Knickerbocker	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
39B:										
Knickerbocker	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
39C:										
Knickerbocker	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
41:										
Niagara	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
42:										
Castile	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
43:										
Jebavy	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good
46A:										
Colosse	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
46B:										
Colosse	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Very poor
46C:										
Colosse	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Very poor
46D:										
Colosse	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Very poor
47A:										
Scio	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
47B:										
Scio	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
50:										
Wareham	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair
54D:										
Colton	Very poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
55A:										
Adams	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
55B:										
Adams	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
55C:										
Adams	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
55D:										
Adams	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
55E:										
Adams	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
56B:										
Becket, very bouldery	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Skerry, very bouldery	Very poor	Poor	Good	Fair	Fair	Poor	Very poor	Poor	Fair	Very poor
56C:										
Becket, very bouldery	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Skerry, very bouldery	Very poor	Poor	Good	Fair	Fair	Poor	Very poor	Poor	Fair	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
57A:										
Croghan	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
57B:										
Croghan	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
60B:										
Adirondack, somewhat poorly drained, very bouldery	Very poor	Fair	Fair	Fair	Fair	Fair	Very poor	Fair	Fair	Very poor
Adirondack, poorly drained, very bouldery	Very poor	Fair	Fair	Fair	Fair	Fair	Very poor	Fair	Fair	Very poor
61A:										
Schoharie	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
61B:										
Schoharie	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
61C:										
Schoharie	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
61E:										
Schoharie	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
62C:										
Becket, very bouldery	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Tunbridge, very bouldery	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
62D:										
Becket, very bouldery	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Tunbridge, very bouldery	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
63A:										
Wallington	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
63B:										
Wallington	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
64A:										
Rhinebeck	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
64B:										
Rhinebeck	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
65F:										
Tunbridge, very bouldery	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Lyman	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
68:										
Wakeville, rarely flooded	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
72:										
Canandaigua	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
74B:										
Berkshire	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
74C:										
Berkshire	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
75:										
Lamson	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
76:										
Niagara	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
77A:										
Collamer	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
77B:										
Collamer	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
77C:										
Collamer	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
77D:										
Collamer	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
78A:										
Arkport	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
78B:										
Arkport	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
78C:										
Arkport	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
79A:										
Roundabout	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
79B:										
Roundabout	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
81A:										
Covert	Poor	Poor	Fair	Good	Good	Poor	Poor	Poor	Good	Poor
81B:										
Covert	Poor	Poor	Fair	Good	Good	Poor	Poor	Poor	Good	Poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
90A:										
Windsor	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
90B:										
Windsor	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
90C:										
Windsor	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
90D:										
Windsor	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
90E:										
Windsor	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
92:										
Napoleon	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
94:										
Naumburg, somewhat poorly drained	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Naumburg, poorly drained	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
95:										
Carlisle	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
99:										
Greenwood	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
102B:										
Honeoye	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
102C:										
Honeoye	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
102D:										
Honeoye	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
103B:										
Honeoye	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Urban land.										
104E:										
Honeoye	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Open-land wild-life	Wood-land wild-life	Wetland wild-life
104E:										
Cazenovia	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
109B:										
Cazenovia	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
109C:										
Cazenovia	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
109D:										
Cazenovia	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
111B:										
Lansing	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
111C:										
Lansing	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
111D:										
Lansing	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
111E:										
Lansing	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
113A:										
Camroden	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
113B:										
Camroden	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
113C:										
Camroden	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
114B:										
Pinckney	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
114C:										
Pinckney	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
114D:										
Pinckney	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
115B:										
Chadakoin	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
115C:										
Chadakoin	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
115D: Chadakoin	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
115E: Chadakoin	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
117A: Pittsfield	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
117B: Pittsfield	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
117C: Pittsfield	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
117D: Pittsfield	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
117E: Pittsfield	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
119B: Pyrities	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
119C: Pyrities	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
119D: Pyrities	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
119E: Pyrities	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
120C: Pyrities, rolling, very bouldery	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
121B: Worth	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
121C: Worth	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
121D: Worth	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Open-land wild-life	Wood-land wild-life	Wetland wild-life
121E:										
Worth	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
126A:										
Lima	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
126B:										
Lima	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
126C:										
Lima	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
133B:										
Empeyville	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
133C:										
Empeyville	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
136A:										
Kendaia	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
136B:										
Kendaia	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
144A:										
Westbury	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
144B:										
Westbury	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
146:										
Lyons	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
150:										
Tughill, stony	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
151:										
Chippewa	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
152B:										
Farmington	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
153C:										
Farmington	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
153D:										
Farmington	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
155: Dannemora, stony	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
156B: Lairdsville, well drained	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
156C: Lairdsville, well drained	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
156E: Lairdsville, well drained	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Good	Very poor
162B: Ischua	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
162C: Ischua	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
162D: Ischua	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
168B: Manlius	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
168C: Manlius	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
168D: Manlius	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
168E: Manlius	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
173B: Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	---	---	---
173C: Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	---	---	---
173E: Mongaup	Fair	Good	Good	Good	Good	Very poor	Very poor	---	---	---

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
176B:										
Nellis	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
176C:										
Nellis	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
176D:										
Nellis	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
195:										
Palms, drained	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
200B:										
Bice	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
200C:										
Bice	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
200D:										
Bice	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
200E:										
Bice	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
212:										
Adrian	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
221B:										
Kalurah	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
221C:										
Kalurah	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
221D:										
Kalurah	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
221E:										
Kalurah	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
223A:										
Malone	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
223B:										
Malone	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
223C:										
Malone	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Open- land wild- life	Wood- land wild- life	Wetland wild- life
256D:										
Becket, very bouldery	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
260A:										
Ovid	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
260B:										
Ovid	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
267B:										
Greene	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
267C:										
Greene	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
269:										
Greene	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Tuller	Very poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Poor	Very poor	Fair
295:										
Carlisle, drained	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
350A:										
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
350B:										
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
350C:										
Alton	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
355B:										
Arnot	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
372A:										
Appleton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
372B:										
Appleton	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
395:										
Palms	Very poor	Poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
397:										
Wonsqueak	Very poor	Poor	Poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
398:										
Dawson	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Very poor	Poor	Fair
413B:										
Venango	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
413C:										
Venango	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
414B:										
Mardin	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
414C:										
Mardin	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
414D:										
Mardin	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
461:										
Marcy	Very poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good
462:										
Runeberg	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
515A:										
Galway, well drained	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
515B:										
Galway, well drained	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
515C:										
Galway, well drained	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
565B:										
Aurora	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
565C:										
Aurora	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
565D:										
Aurora	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
565E:										
Aurora	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
582A:										
Amenia	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
582B:										
Amenia	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
747A:										
Manheim	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
747B:										
Manheim	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
747C:										
Manheim	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
750B:										
Minoa	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
790A:										
Conesus	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
790B:										
Conesus	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
790C:										
Conesus	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
801B:										
Alton, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
801C:										
Alton, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
802D:										
Howard, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Alton, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
802E:										
Howard, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Alton, cool	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
804:										
Chippewa, stony	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
807A:										
Manheim, cool	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Open-land wild-life	Wood-land wild-life	Wetland wild-life
807B:										
Manheim, cool	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
807C:										
Manheim, cool	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
811B:										
Empeyville, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
811C:										
Empeyville, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
813B:										
Gretor	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
813C:										
Gretor	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
814:										
Gretor	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
Torull	Very poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Poor	Very poor	Fair
816B:										
Herkimer, cool	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
818B:										
Kalurah, warm	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
818C:										
Kalurah, warm	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
818D:										
Kalurah, warm	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
818E:										
Kalurah, warm	Very poor	Very poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
819A:										
Kendaia, cool	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
819B:										
Kendaia, cool	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
823A:										
Malone, warm	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
823B:										
Malone, warm	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
823C:										
Malone, warm	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
825B:										
Pinckney, warm	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
825C:										
Pinckney, warm	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
825D:										
Pinckney, warm	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
831:										
Tughill, stony, warm	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
833A:										
Westbury, warm	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
833B:										
Westbury, warm	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
838B:										
Worth, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
838C:										
Worth, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
838D:										
Worth, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
838E:										
Worth, warm	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
842B:										
Farmington, cool	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
843D:										
Farmington, cool	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
845A:										
Galway, cool	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
845B:										
Galway, cool	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
845C:										
Galway, cool-----------	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
858A:										
Chenango, red substratum	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
858B:										
Chenango, red substratum	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
858C:										
Chenango, red substratum	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
858D:										
Chenango, red substratum	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
858E:										
Chenango, red substratum	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
982:										
Wallkill----------------	Very poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
W:										
Water.										

Table 14.--Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.99		
Fluvaquents, frequently flooded, warm---------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
2:							
Hamlin--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.87		
4:							
Wakeville, occasionally flooded------------	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
7:							
Wayland-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
9:							
Wenonah-------------	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
10:							
Otego---------------	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
12B:							
Herkimer------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.16	Depth to saturated zone	1.00	Slope	0.50
						Depth to saturated zone	0.16

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:							
Herkimer------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.16	Slope	0.63	Depth to saturated zone	0.16
13:							
Fluvaquents, frequently flooded, cool---------------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Borosaprists--------	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
20:							
Pits, sand and gravel-------------	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Not limited		Not limited		Not limited	
24B:							
Howard--------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
24C:							
Howard--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	
27A:							
Nicholville---------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27B:							
Nicholville---------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
						Slope	0.50
28A:							
Phelps--------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
28B:							
Phelps--------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
30:							
Fredon, somewhat poorly drained-----	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fredon, poorly drained-----------	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
31:							
Halsey--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
33A:							
Alton---------------	40	Not limited		Not limited		Not limited	
Urban land----------	30	Not rated		Not rated		Not rated	
33B:							
Alton---------------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
34E:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
35A:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35B:							
Unadilla------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
35C:							
Unadilla------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
36B:							
Salmon--------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
38A:							
Chenango------------	85	Not limited		Not limited		Not limited	
38B:							
Chenango------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
38C:							
Chenango------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
38D:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
38E:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
39A:							
Knickerbocker-------	80	Not limited		Not limited		Not limited	
39B:							
Knickerbocker-------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
39C:							
Knickerbocker-------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
41:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
42:							
Castile-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.95	Depth to saturated zone	1.00	Depth to saturated zone	0.95

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
43:							
Jebavy	70	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
46A:							
Colosse	85	Not limited		Not limited		Not limited	
46B:							
Colosse	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
46C:							
Colosse	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
46D:							
Colosse	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
47A:							
Scio	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
47B:							
Scio	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
50:							
Wareham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
54D:							
Colton	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
55A:							
Adams	65	Not limited		Not limited		Not limited	
55B:							
Adams	65	Not limited		Not limited		Somewhat limited	
						Slope	0.50
55C:							
Adams	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
55D:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55E:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
56B:							
Becket, very bouldery	40	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.99	Slope	0.50
Skerry, very bouldery	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
56C:							
Becket, very bouldery	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to saturated zone	0.99	Slope	1.00
				Slope	0.63		
Skerry, very bouldery	35	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.67
57A:							
Croghan	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
57B:							
Croghan	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
						Slope	0.50
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.12
Adirondack, poorly drained, very bouldery	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
61A:							
Schoharie	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
61B:							
Schoharie----------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
61C:							
Schoharie----------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.63	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
61E:							
Schoharie----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
62C:							
Becket, very bouldery----------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	0.99	Slope	1.00
				Slope	0.04		
Tunbridge, very bouldery----------	35	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Slope	0.04	Depth to hard bedrock	0.01
62D:							
Becket, very bouldery----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.99		
Tunbridge, very bouldery----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
63A:							
Wallington----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
63B:							
Wallington----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
64A:							
Rhinebeck-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
64B:							
Rhinebeck-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Slope	0.50
						Shrink-swell	0.50
65F:							
Tunbridge, very bouldery-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
Lyman---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
68:							
Wakeville, rarely flooded------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
72:							
Canandaigua---------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
74B:							
Berkshire-----------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
74C:							
Berkshire-----------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
75:							
Lamson--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
76:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
77A:							
Collamer------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
77B:							
Collamer------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.50
77C:							
Collamer------------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
77D:							
Collamer------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
78A:							
Arkport-------------	85	Not limited		Not limited		Not limited	
78B:							
Arkport-------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
78C:							
Arkport-------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
79A:							
Roundabout----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
79B:							
Roundabout----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
81A:							
Covert--------------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
81B:							
Covert--------------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
90A:							
Windsor-------------	80	Not limited		Not limited		Not limited	
90B:							
Windsor-------------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
90C:							
Windsor-------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
90D:							
Windsor-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
90E:							
Windsor-------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
92:							
Napoleon------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
94:							
Naumburg, somewhat poorly drained-----	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Naumburg, poorly drained------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
95:							
Carlisle------------	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
99:							
Greenwood-----------	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
102B:							
Honeoye-------------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.50
102C:							
Honeoye-------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
102D:							
Honeoye-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
103B:							
Honeoye-------------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cazenovia-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
109B:							
Cazenovia-----------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.12
109C:							
Cazenovia-----------	75	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
109D:							
Cazenovia-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
111B:							
Lansing-------------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.50
111C:							
Lansing-------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
111D:							
Lansing-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
111E:							
Lansing-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
113A:							
Camroden------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
113B:							
Camroden------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
						Slope	0.50
113C:							
Camroden------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Depth to thick cemented pan	1.00
114B:							
Pinckney------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
				Depth to thin cemented pan	0.84	Slope	0.50
114C:							
Pinckney------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to thin cemented pan	0.84	Depth to saturated zone	0.67
				Slope	0.63		
114D:							
Pinckney------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
				Depth to thin cemented pan	0.84		
115B:							
Chadakoin-----------	75	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.80	Slope	0.50
115C:							
Chadakoin-----------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to saturated zone	0.80	Slope	1.00
				Slope	0.63		
115D:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.80		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115E:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.80		
117A:							
Pittsfield----------	75	Not limited		Not limited		Not limited	
117B:							
Pittsfield----------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.50
117C:							
Pittsfield----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
117D:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
117E:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
119B:							
Pyrities------------	65	Not limited		Not limited		Somewhat limited	
						Slope	0.50
119C:							
Pyrities------------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
119D:							
Pyrities------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
119E:							
Pyrities------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
120C:							
Pyrities, rolling, very bouldery------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
121B:							
Worth---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Slope	0.50
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.10

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
121C:							
Worth---------------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to thin cemented pan	0.71	Depth to saturated zone	0.10
				Slope	0.63		
121D:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Depth to saturated zone	0.10
				Depth to thin cemented pan	0.71		
121E:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Depth to saturated zone	0.10
				Depth to thin cemented pan	0.71		
126A:							
Lima----------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
126B:							
Lima----------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.50
126C:							
Lima----------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
133B:							
Empeyville----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	0.99	Slope	0.50
133C:							
Empeyville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to thin cemented pan	0.99	Depth to saturated zone	1.00
				Slope	0.63		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
136A:							
Kendaia	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
136B:							
Kendaia	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
144A:							
Westbury	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
144B:							
Westbury	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.12
146:							
Lyons	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
150:							
Tughill, stony	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
151:							
Chippewa	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
152B:							
Farmington	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.12
153C:							
Farmington	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
153C:							
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
155:							
Dannemora, stony----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
156B:							
Lairdsville, well drained------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
		Shrink-swell	0.50	Depth to soft bedrock	0.95	Slope	0.50
				Shrink-swell	0.50	Shrink-swell	0.50
156C:							
Lairdsville, well drained------------	80	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Depth to soft bedrock	0.95	Depth to hard bedrock	0.79
		Shrink-swell	0.50	Slope	0.63	Shrink-swell	0.50
				Shrink-swell	0.50		
156E:							
Lairdsville, well drained------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
		Shrink-swell	0.50	Depth to soft bedrock	0.95	Shrink-swell	0.50
				Shrink-swell	0.50		
162B:							
Ischua--------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Slope	0.12
						Depth to hard bedrock	0.01

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162C:							
Ischua	75	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.56	Depth to hard bedrock	1.00	Depth to saturated zone	0.56
		Depth to hard bedrock	0.01	Slope	0.63	Depth to hard bedrock	0.01
162D:							
Ischua	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
168B:							
Manlius	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
						Slope	0.50
168C:							
Manlius	75	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.64
168D:							
Manlius	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
168E:							
Manlius	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
173B:							
Mongaup	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
						Slope	0.50
173C:							
Mongaup	75	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.79
173E:							
Mongaup	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
176B:							
Nellis--------------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
176C:							
Nellis--------------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
176D:							
Nellis--------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
195:							
Palms, drained------	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
200B:							
Bice----------------	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
200C:							
Bice----------------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
200D:							
Bice----------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
200E:							
Bice----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
212:							
Adrian--------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
221B:							
Kalurah-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.50
221C:							
Kalurah-------------	75	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
221D:							
Kalurah-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
221E:							
Kalurah-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
223A:							
Malone--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
223B:							
Malone--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
223C:							
Malone--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
256D:							
Becket, very bouldery-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	0.99		
260A:							
Ovid----------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
260B:							
Ovid----------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.12
267B:							
Greene--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Slope	0.12
						Depth to hard bedrock	0.01

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
267C:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.16	Depth to hard bedrock	1.00	Depth to saturated zone	0.16
		Depth to hard bedrock	0.01	Slope	0.16	Depth to hard bedrock	0.01
269:							
Greene	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.01	Depth to hard bedrock	1.00	Depth to hard bedrock	0.01
Tuller	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
295:							
Carlisle, drained	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
350A:							
Alton	75	Not limited		Not limited		Not limited	
350B:							
Alton	75	Not limited		Not limited		Somewhat limited	
						Slope	0.50
350C:							
Alton	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
355B:							
Arnot	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.50
372A:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
372B:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
395:							
Palms---------------	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
397:							
Wonsqueak-----------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
398:							
Dawson--------------	85	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
413B:							
Venango-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	0.71		
413C:							
Venango-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to thin cemented pan	0.71	Depth to saturated zone	1.00
				Slope	0.63		
414B:							
Mardin--------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Depth to thick cemented pan	0.90
		Depth to saturated zone	0.77	Depth to thick cemented pan	1.00	Depth to saturated zone	0.77
						Slope	0.50
414C:							
Mardin--------------	80	Somewhat limited		Very limited		Very limited	
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.77	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.90
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.77

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
414D:							
Mardin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thick cemented pan	0.90	Depth to saturated zone	1.00	Depth to thick cemented pan	0.90
		Depth to saturated zone	0.77	Depth to thick cemented pan	1.00	Depth to saturated zone	0.77
461:							
Marcy	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
462:							
Runeberg	65	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
515A:							
Galway, well drained	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
515B:							
Galway, well drained	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
						Slope	0.50
515C:							
Galway, well drained	75	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.79
565B:							
Aurora	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
				Depth to soft bedrock	0.97	Slope	0.50
565C:							
Aurora	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to saturated zone	0.98
		Slope	0.63	Depth to soft bedrock	0.97	Depth to hard bedrock	0.84
				Slope	0.63		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
565D:							
Aurora--------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
				Depth to soft bedrock	0.97		
565E:							
Aurora--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
				Depth to soft bedrock	0.97		
582A:							
Amenia--------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
582B:							
Amenia--------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
						Slope	0.50
747A:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
747B:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.12
747C:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
750B:							
Minoa---------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
790A:							
Conesus-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
790B:							
Conesus	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
						Slope	0.12
790C:							
Conesus	75	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.77
801B:							
Alton, cool	75	Not limited		Not limited		Somewhat limited	
						Slope	0.50
801C:							
Alton, cool	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
802D:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
802E:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
804:							
Chippewa, stony	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00
807A:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
807B:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.12
807C:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
811B:							
Empeyville, warm----	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Depth to thin cemented pan	0.99	Slope	0.50
811C:							
Empeyville, warm----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to thin cemented pan	0.99	Depth to saturated zone	1.00
				Slope	0.63		
813B:							
Gretor--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to hard bedrock	0.54
813C:							
Gretor--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Slope	0.63	Depth to hard bedrock	0.54
814:							
Gretor--------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	0.54	Depth to hard bedrock	1.00	Depth to hard bedrock	0.54
Torull--------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
816B:							
Herkimer, cool------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.16	Depth to saturated zone	1.00	Slope	0.50
						Depth to saturated zone	0.16
818B:							
Kalurah, warm-------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
818C:							
Kalurah, warm-------	75	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.98
818D:							
Kalurah, warm-------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
818E:							
Kalurah, warm-------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
819A:							
Kendaia, cool-------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
819B:							
Kendaia, cool-------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
823A:							
Malone, warm--------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
823B:							
Malone, warm--------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.50
823C:							
Malone, warm--------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	1.00
825B:							
Pinckney, warm------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
				Depth to thin cemented pan	0.84	Slope	0.50

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
825C:							
Pinckney, warm------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to thin cemented pan	0.84	Depth to saturated zone	0.67
				Slope	0.63		
825D:							
Pinckney, warm------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.67	Depth to saturated zone	1.00	Depth to saturated zone	0.67
				Depth to thin cemented pan	0.84		
831:							
Tughill, stony, warm	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
833A:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
833B:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thick cemented pan	0.99	Depth to thick cemented pan	1.00	Depth to thick cemented pan	0.99
						Slope	0.12
838B:							
Worth, warm---------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Slope	0.50
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.10
838C:							
Worth, warm---------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to thin cemented pan	0.71	Depth to saturated zone	0.10
				Slope	0.63		
838D:							
Worth, warm---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Depth to saturated zone	0.10
				Depth to thin cemented pan	0.71		

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
838E:							
Worth, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.10	Depth to saturated zone	1.00	Depth to saturated zone	0.10
				Depth to thin cemented pan	0.71		
842B:							
Farmington, cool	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.12
843D:							
Farmington, cool	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
845B:							
Galway, cool	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to hard bedrock	0.79
						Slope	0.50
845C:							
Galway, cool	75	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.79
858A:							
Chenango, red substratum	85	Not limited		Not limited		Not limited	
858B:							
Chenango, red substratum	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
858C:							
Chenango, red substratum	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
858D:							
Chenango, red substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 14.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
858E:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
982:							
Wallkill------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	1.00
		Frost action	0.50	Flooding	0.80	Droughty	0.01
				Cutbanks cave	0.10		
Fluvaquents, frequently flooded, warm---------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
2:							
Hamlin--------------	85	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	0.87	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
				Cutbanks cave	0.10		
4:							
Wakeville, occasionally flooded------------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.94	Cutbanks cave	0.10		
7:							
Wayland-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
9:							
Wenonah-------------	80	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
10:							
Otego---------------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56	Flooding	0.60		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12B:							
Herkimer	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.08
		Depth to saturated zone	0.08	Cutbanks cave	0.10		
12C:							
Herkimer	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Depth to saturated zone	0.08
		Depth to saturated zone	0.08	Cutbanks cave	0.10		
13:							
Fluvaquents, frequently flooded, cool	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Borosaprists	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00		
		Frost action	1.00	Organic matter content	1.00		
20:							
Pits, sand and gravel	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land	75	Not rated		Not rated		Not rated	
24A:							
Howard	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
24B:							
Howard	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
24C:							
Howard	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Pits, quarry	70	Not rated		Not rated		Not rated	
27A:							
Nicholville	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56	Cutbanks cave	0.10		
27B:							
Nicholville	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56	Cutbanks cave	0.10		
28A:							
Phelps	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
28B:							
Phelps	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
30:							
Fredon, somewhat poorly drained	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
Fredon, poorly drained	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
31:							
Halsey	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Gravel content	0.08
		Flooding	0.40				
33A:							
Alton	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
Urban land	30	Not rated		Not rated		Not rated	
33B:							
Alton	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33B:							
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
34E:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
35A:							
Unadilla------------	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
35B:							
Unadilla------------	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
35C:							
Unadilla------------	80	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
36B:							
Salmon--------------	85	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
38A:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.15
38B:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.15
38C:							
Chenango------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.15
38D:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.15

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
38E:							
Chenango	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.15
39A:							
Knickerbocker	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.04
39B:							
Knickerbocker	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.04
39C:							
Knickerbocker	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Droughty	0.04
41:							
Niagara	80	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
42:							
Castile	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	0.68	Cutbanks cave	1.00		
43:							
Jebavy	70	Very limited		Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	1.00
				Dense layer	0.50		
46A:							
Colosse	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.76
46B:							
Colosse	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.76
46C:							
Colosse	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Droughty	0.76
		Frost action	0.50	Slope	0.63	Slope	0.63
46D:							
Colosse	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.76

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A:							
Scio	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56	Cutbanks cave	0.10		
47B:							
Scio	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56	Cutbanks cave	0.10		
50:							
Wareham	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.02
54D:							
Colton	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	1.00
						Gravel content	0.07
55A:							
Adams	65	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.91
55B:							
Adams	65	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.91
55C:							
Adams	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Droughty	0.91
				Slope	0.63	Slope	0.63
55D:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.91
55E:							
Adams	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.91
56B:							
Becket, very bouldery	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.01
				Depth to saturated zone	0.99	Droughty	0.01
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56B:							
Skerry, very bouldery	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Cutbanks cave	1.00		
56C:							
Becket, very bouldery	45	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Depth to saturated zone	0.99	Content of large stones	0.01
				Slope	0.63	Droughty	0.01
				Dense layer	0.50		
Skerry, very bouldery	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.35
		Depth to saturated zone	0.35	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Slope	0.04		
57A:							
Croghan	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.43	Depth to saturated zone	1.00	Droughty	0.50
				Cutbanks cave	1.00	Depth to saturated zone	0.43
57B:							
Croghan	70	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.43	Depth to saturated zone	1.00	Droughty	0.50
				Cutbanks cave	1.00	Depth to saturated zone	0.43
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50		
				Cutbanks cave	0.10		
Adirondack, poorly drained, very bouldery	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50		
				Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61A:							
Schoharie----------	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
61B:							
Schoharie----------	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
61C:							
Schoharie----------	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
61E:							
Schoharie----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Shrink-swell	0.50	Too clayey	0.12		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
62C:							
Becket, very bouldery----------	45	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Depth to saturated zone	0.99	Content of large stones	0.01
				Dense layer	0.50	Droughty	0.01
				Slope	0.04		
Tunbridge, very bouldery----------	35	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Slope	0.04
		Slope	0.04	Cutbanks cave	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Slope	0.04		
62D:							
Becket, very bouldery----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.01
				Depth to saturated zone	0.99	Droughty	0.01
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62D:							
Tunbridge, very bouldery	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	1.00		
63A:							
Wallington	80	Very limited		Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	0.10	Droughty	0.54
63B:							
Wallington	80	Very limited		Very limited		Very limited	
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	0.10	Droughty	0.54
64A:							
Rhinebeck	80	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
		Shrink-swell	0.50				
64B:							
Rhinebeck	85	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
		Shrink-swell	0.50				
65F:							
Tunbridge, very bouldery	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	1.00		
Lyman	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.70
						Gravel content	0.04
						Content of large stones	0.01

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
68:							
Wakeville, rarely flooded	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Cutbanks cave	0.10		
		Flooding	0.40				
72:							
Canandaigua	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
74B:							
Berkshire	70	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
74C:							
Berkshire	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
75:							
Lamson	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
76:							
Niagara	80	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.99				
77A:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
77B:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
77C:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
77D:							
Collamer------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
78A:							
Arkport-------------	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
78B:							
Arkport-------------	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
78C:							
Arkport-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
79A:							
Roundabout----------	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	0.10		
79B:							
Roundabout----------	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	0.10		
81A:							
Covert--------------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.47
				Cutbanks cave	1.00	Depth to saturated zone	0.19
81B:							
Covert--------------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.47
				Cutbanks cave	1.00	Depth to saturated zone	0.19
90A:							
Windsor-------------	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.42
90B:							
Windsor-------------	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.42
90C:							
Windsor-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Droughty	0.42

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90D:							
Windsor	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.42
90E:							
Windsor	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.42
92:							
Napoleon	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
		Frost action	1.00	Cutbanks cave	1.00		
94:							
Naumburg, somewhat poorly drained	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00		
Naumburg, poorly drained	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	0.50	Cutbanks cave	1.00		
95:							
Carlisle	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
		Frost action	1.00				
99:							
Greenwood	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
		Frost action	1.00				
102B:							
Honeoye	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01
102C:							
Honeoye	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.01

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102D:							
Honeoye-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01
103B:							
Honeoye-------------	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01
Cazenovia-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
		Frost action	0.50				
109B:							
Cazenovia-----------	75	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
		Frost action	0.50				
109C:							
Cazenovia-----------	75	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00	Slope	0.63
		Slope	0.63	Slope	0.63		
		Frost action	0.50				
109D:							
Cazenovia-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
		Frost action	0.50				
111B:							
Lansing-------------	75	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
111C:							
Lansing-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
111D:							
Lansing-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
111E:							
Lansing------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
113A:							
Camroden-----------	85	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	0.10	Droughty	0.53
		Low strength	0.78				
113B:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	0.10	Droughty	0.53
		Low strength	0.78				
113C:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Slope	0.63	Slope	0.63
		Low strength	0.78	Cutbanks cave	0.10	Droughty	0.53
		Slope	0.63				
114B:							
Pinckney-----------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.35	Depth to thin cemented pan	0.84	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		
114C:							
Pinckney-----------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Frost action	0.50	Depth to thin cemented pan	0.84	Slope	0.63
		Depth to saturated zone	0.35	Slope	0.63	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114D:							
Pinckney------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.35	Depth to thin cemented pan	0.84	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		
115B:							
Chadakoin-----------	75	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.80		
				Cutbanks cave	0.10		
115C:							
Chadakoin-----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	0.80	Slope	0.63
		Frost action	0.50	Slope	0.63		
				Cutbanks cave	0.10		
115D:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	0.80		
				Cutbanks cave	0.10		
115E:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	0.80		
				Cutbanks cave	0.10		
117A:							
Pittsfield----------	75	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
117B:							
Pittsfield----------	75	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
117C:							
Pittsfield----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10		
117D:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
117E:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119B:							
Pyrities------------	65	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
119C:							
Pyrities------------	65	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
119D:							
Pyrities------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
119E:							
Pyrities------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
120C:							
Pyrities, rolling, very bouldery------	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
121B:							
Worth---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		
121C:							
Worth---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.63
		Depth to saturated zone	0.05	Depth to thin cemented pan	0.71	Droughty	0.05
				Slope	0.63	Depth to saturated zone	0.05
				Dense layer	0.50		
121D:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121E:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		
126A:							
Lima----------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.06
				Dense layer	0.50	Gravel content	0.01
126B:							
Lima----------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.06
				Dense layer	0.50	Gravel content	0.01
126C:							
Lima----------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.06
				Dense layer	0.50	Gravel content	0.01
133B:							
Empeyville----------	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Frost action	0.50	Depth to thin cemented pan	0.99	Depth to saturated zone	0.83
				Dense layer	0.50	Droughty	0.47
				Cutbanks cave	0.10		
133C:							
Empeyville----------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Frost action	0.50	Depth to thin cemented pan	0.99	Depth to saturated zone	0.83
				Slope	0.63	Slope	0.63
				Dense layer	0.50	Droughty	0.47
				Cutbanks cave	0.10		
136A:							
Kendaia-------------	65	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136B:							
Kendaia-------------	65	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
144A:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Depth to thick cemented pan	0.99	Cutbanks cave	1.00	Droughty	0.22
				Dense layer	0.50		
144B:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Depth to thick cemented pan	0.99	Cutbanks cave	1.00	Droughty	0.22
				Dense layer	0.50		
146:							
Lyons---------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
150:							
Tughill, stony------	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10	Content of large stones	0.11
151:							
Chippewa------------	85	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50	Droughty	0.74
				Cutbanks cave	0.10		
152B:							
Farmington----------	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50			Droughty	1.00

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
153C:							
Farmington----------	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
						Droughty	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50				
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
						Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50				
155:							
Dannemora, stony----	85	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Droughty	0.99
				Dense layer	0.50		
156B:							
Lairdsville, well drained------------	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.95
		Depth to hard bedrock	0.79			Droughty	0.29
				Depth to soft bedrock	0.95		
		Shrink-swell	0.50				
		Frost action	0.50	Cutbanks cave	0.10		
156C:							
Lairdsville, well drained------------	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.95
		Depth to hard bedrock	0.79			Slope	0.63
				Depth to soft bedrock	0.95	Droughty	0.29
		Slope	0.63				
		Shrink-swell	0.50	Slope	0.63		
		Forst action	0.50	Cutbanks cave	0.10		
156E:							
Lairdsville, well drained------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00			Depth to bedrock	0.95
		Depth to hard bedrock	0.79	Slope	1.00	Droughty	0.29
				Depth to soft bedrock	0.95		
		Shrink-swell	0.50				
		Frost action	0.50	Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
162B:							
Ischua	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to hard bedrock	1.00	Depth to saturated zone	0.28
		Depth to saturated zone	0.28	Depth to saturated zone	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	0.10		
162C:							
Ischua	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	1.00	Slope	0.63
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.28
		Depth to saturated zone	0.28	Slope	0.63	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	0.10		
162D:							
Ischua	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to saturated zone	0.28
		Depth to saturated zone	0.28	Depth to saturated zone	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	0.10		
168B:							
Manlius	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Frost action	0.50	Dense layer	0.50	Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01
168C:							
Manlius	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to bedrock	0.65
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Dense layer	0.50	Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01
168D:							
Manlius	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Frost action	0.50	Dense layer	0.50	Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
168E:							
Manlius-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.64	Slope	1.00	Depth to bedrock	0.65
		Frost action	0.50	Dense layer	0.50	Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01
173B:							
Mongaup-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.19
173C:							
Mongaup-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.19
173E:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.79	Slope	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.19
176B:							
Nellis--------------	70	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
176C:							
Nellis--------------	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
176D:							
Nellis--------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
195:							
Palms, drained------	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	0.10		
		Frost action	1.00				
		Low strength	1.00				
200B:							
Bice----------------	70	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
200C:							
Bice	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
200D:							
Bice	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
200E:							
Bice	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
212:							
Adrian	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00		
		Frost action	1.00	Organic matter content	1.00		
221B:							
Kalurah	75	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
221C:							
Kalurah	75	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00	Slope	0.63
		Slope	0.63	Slope	0.63		
221D:							
Kalurah	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
221E:							
Kalurah	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
223A:							
Malone	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00		
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223B:							
Malone--------------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00		
				Dense layer	0.50		
223C:							
Malone--------------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00	Slope	0.63
		Slope	0.63	Slope	0.63		
				Dense layer	0.50		
256D:							
Becket, very bouldery-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.01
				Depth to saturated zone	0.99	Droughty	0.01
				Dense layer	0.50		
260A:							
Ovid----------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Shrink-swell	0.50				
260B:							
Ovid----------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Shrink-swell	0.50				
267B:							
Greene--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	1.00		
267C:							
Greene--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.16
		Slope	0.16	Cutbanks cave	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Slope	0.16		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
269:							
Greene	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	1.00		
Tuller	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Droughty	1.00
		Frost action	1.00			Depth to bedrock	1.00
295:							
Carlisle, drained	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
		Frost action	1.00				
350A:							
Alton	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
350B:							
Alton	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
350C:							
Alton	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.21
355B:							
Arnot	75	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.99
372A:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
372B:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
395:							
Palms	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	0.10		
		Frost action	1.00				
		Low strength	1.00				
397:							
Wonsqueak	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00		
		Frost action	1.00	Cutbanks cave	0.10		
398:							
Dawson	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Cutbanks cave	1.00		
		Frost action	1.00	Organic matter content	1.00		
413B:							
Venango	75	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00	Depth to cemented pan	0.71
				Depth to thin cemented pan	0.71		
413C:							
Venango	75	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00	Depth to cemented pan	0.71
		Slope	0.62	Depth to thin cemented pan	0.71	Slope	0.63
				Slope	0.63		
414B:							
Mardin	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to cemented pan	0.90
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Dense layer	0.50	Droughty	0.24
				Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
414C:							
Mardin--------------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to thick cemented pan	0.90	Depth to thick cemented pan	1.00	Depth to cemented pan	0.90
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Dense layer	0.50	Droughty	0.24
				Cutbanks cave	0.10		
414D:							
Mardin--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to thick cemented pan	1.00	Slope	1.00
		Depth to thick cememted pan	0.90	Slope	1.00	Depth to cemented pan	0.90
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Dense layer	0.50	Droughty	0.24
				Cutbanks cave	0.10		
461:							
Marcy---------------	85	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Droughty	0.92
				Dense layer	0.50		
462:							
Runeberg------------	65	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50		
				Cutbanks cave	0.10		
515A:							
Galway, well drained	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07
515B:							
Galway, well drained	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07
515C:							
Galway, well drained	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
565B:							
Aurora--------------	75	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.97
		Depth to had bedrock	0.84	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Depth to soft bedrock	0.97	Droughty	0.47
		Frost action	0.50	Cutbanks cave	0.10		
565C:							
Aurora--------------	80	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.97
		Depth to hard bedtock	0.84	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Depth to soft bedrock	0.97	Slope	0.63
		Slope	0.63	Slope	0.63	Droughty	0.47
		Frost action	0.50	Cutbanks cave	0.10		
565D:							
Aurora--------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.97
		Depth to hard bedrock	0.84	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Depth to soft bedrock	0.97	Droughty	0.47
		Frost action	0.50	Cutbanks cave	0.10		
565E:							
Aurora--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.97
		Depth to hard bedrock	0.84	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Depth to soft bedrock	0.97	Droughty	0.47
		Frost action	0.50	Cutbanks cave	0.10		
582A:							
Amenia--------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Frost action	0.50	Cutbanks cave	1.00		
				Dense layer	0.50		
582B:							
Amenia--------------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Frost action	0.50	Cutbanks cave	1.00		
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
747A:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
747B:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
747C:							
Manheim-------------	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Dense layer	0.50		
				Slope	0.04		
750B:							
Minoa---------------	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
790A:							
Conesus-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Cutbanks cave	1.00		
				Dense layer	0.50		
790B:							
Conesus-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Cutbanks cave	1.00		
				Dense layer	0.50		
790C:							
Conesus-------------	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	0.63
		Frost action	0.50	Cutbanks cave	1.00	Depth to saturated zone	0.43
		Depth to saturated zone	0.43	Slope	0.63		
				Dense layer	0.50		
801B:							
Alton, cool---------	75	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
801C:							
Alton, cool---------	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Droughty	0.21

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802D:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
802E:							
Howard, cool	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00		
Alton, cool	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.21
804:							
Chippewa, stony	85	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to thick cemented pan	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50	Droughty	0.74
				Cutbanks cave	0.10		
807A:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
807B:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
807C:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Dense layer	0.50		
				Slope	0.04		
811B:							
Empeyville, warm	80	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Frost action	0.50	Depth to thin cemented pan	0.99	Depth to saturated zone	0.83
				Dense layer	0.50	Droughty	0.47
				Cutbanks cave	0.10		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
811C:							
Empeyville, warm	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.83	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Slope	0.63	Depth to thin cemented pan	0.99	Depth to saturated zone	0.83
		Frost action	0.50	Slope	0.63	Slope	0.63
				Dense layer	0.50	Droughty	0.47
				Cutbanks cave	0.10		
813B:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.54
		Depth to hard bedrock	0.54	Cutbanks cave	0.10		
		Low strength	0.22				
813C:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Depth to bedrock	0.54
		Depth to hard bedrock	0.54	Cutbanks cave	0.10		
		Low strength	0.22				
814:							
Gretor	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.54
		Depth to hard bedrock	0.54	Cutbanks cave	0.10		
		Low strength	0.22				
Torull	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Frost action	1.00			Droughty	0.99
816B:							
Herkimer, cool	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.08
		Depth to saturated zone	0.08	Cutbanks cave	0.10		
818B:							
Kalurah, warm	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Frost action	0.50	Cutbanks cave	1.00		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
818C:							
Kalurah, warm-------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63		
818D:							
Kalurah, warm-------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Frost action	0.50	Cutbanks cave	1.00		
818E:							
Kalurah, warm-------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Frost action	0.50	Cutbanks cave	1.00		
819A:							
Kendaia, cool-------	75	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
819B:							
Kendaia, cool-------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
				Dense layer	0.50		
823A:							
Malone, warm--------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00		
				Dense layer	0.50		
823B:							
Malone, warm--------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00		
				Dense layer	0.50		
823C:							
Malone, warm--------	70	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.96	Cutbanks cave	1.00	Slope	0.63
		Slope	0.63	Slope	0.63		
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
825B:							
Pinckney, warm------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.35	Depth to thin cemented pan	0.84	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		
825C:							
Pinckney, warm------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Frost action	0.50	Depth to thin cemented pan	0.84	Slope	0.63
		Depth to saturated zone	0.35	Slope	0.63	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		
825D:							
Pinckney, warm------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.84
		Depth to saturated zone	0.35	Depth to thin cemented pan	0.84	Depth to saturated zone	0.35
				Dense layer	0.50		
				Cutbanks cave	0.10		
831:							
Tughill, stony, warm	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10	Content of large stones	0.11
833A:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Depth to thick cemented pan	0.99	Cutbanks cave	1.00	Droughty	0.22
				Dense layer	0.50		
833B:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to thick cemented pan	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to cemented pan	0.99
		Depth to thick cemented pan	0.99	Cutbanks cave	1.00	Droughty	0.22
				Dense layer	0.50		

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838B:							
Worth, warm	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		
838C:							
Worth, warm	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Slope	0.63
				Depth to thin cemented pan	0.71	Droughty	0.05
				Slope	0.63	Depth to saturated zone	0.05
				Dense layer	0.50		
838D:							
Worth, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.01	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		
838E:							
Worth, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to saturated zone	1.00	Depth to cemented pan	0.71
		Depth to saturated zone	0.05	Cutbanks cave	1.00	Droughty	0.05
				Depth to thin cemented pan	0.71	Depth to saturated zone	0.05
				Dense layer	0.50		
842B:							
Farmington, cool	80	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Frost action	0.50			Droughty	1.00
843D:							
Farmington, cool	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Frost action	0.50			Droughty	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07

Table 15.--Local Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
845B:							
Galway, cool--------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07
845C:							
Galway, cool--------	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.79	Depth to hard bedrock	1.00	Depth to bedrock	0.80
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.07
858A:							
Chenango, red substratum---------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.05
						Droughty	0.01
858B:							
Chenango, red substratum---------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.05
						Droughty	0.01
858C:							
Chenango, red substratum---------	85	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
		Frost action	0.50	Slope	0.63	Gravel content	0.05
						Droughty	0.01
858D:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.05
						Droughty	0.01
858E:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.05
						Droughty	0.01
982:							
Wallkill------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Organic matter content	1.00		
				Flooding	0.60		
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 16.--Sewage Disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Udifluvents, frequently flooded	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.68	Seepage	0.32
Fluvaquents, frequently flooded, warm---------------	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.99	Seepage	0.99
2:					
Hamlin--------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
4:					
Wakeville, occasionally flooded------------	70	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
7:					
Wayland-------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.02
9:					
Wenonah-------------	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.50	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10:					
Otego----------------	70	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
12B:					
Herkimer------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
12C:					
Herkimer------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
13:					
Fluvaquents, frequently flooded, cool---------------	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.99	Seepage	0.99
Borosaprists--------	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Organic matter content	1.00
20:					
Pits, sand and gravel-------------	70	Not rated		Not rated	
21:					
Udorthents, refuse substratum---------	85	Not rated		Not rated	
22:					
Udorthents, smoothed	75	Not rated		Not rated	
23:					
Urban land----------	75	Not rated		Not rated	
24A:					
Howard--------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24B:					
Howard--------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
24C:					
Howard--------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	0.63		
25:					
Pits, quarry--------	70	Not rated		Not rated	
27A:					
Nicholville---------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
27B:					
Nicholville---------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
28A:					
Phelps--------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
28B:					
Phelps--------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.32
		Slow water movement	0.50		
30:					
Fredon, somewhat poorly drained-----	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
		Slow water movement	0.72		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
30:					
Fredon, poorly drained-----------	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72		
31:					
Halsey--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00	Flooding	0.40
		Flooding	0.40		
33A:					
Alton---------------	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
Urban land----------	30	Not rated		Not rated	
33B:					
Alton---------------	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
Urban land----------	30	Not rated		Not rated	
34D:					
Howard--------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Alton---------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
34E:					
Howard--------------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Alton---------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
35A:					
Unadilla------------	80	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
35B:					
Unadilla------------	80	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
35C:					
Unadilla------------	80	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
36B:					
Salmon--------------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
38A:					
Chenango------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
38B:					
Chenango------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
38C:					
Chenango------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	0.63		
38D:					
Chenango------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
38E:					
Chenango------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
39A:					
Knickerbocker-------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
39B:					
Knickerbocker-------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00	Slope	0.92
39C:					
Knickerbocker-------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Poor filtering capacity	1.00	Seepage	1.00
		Slope	0.63		
41:					
Niagara-------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.50
42:					
Castile-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
43:					
Jebavy--------------	70	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
46A:					
Colosse-------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
46B:					
Colosse-------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
46C:					
Colosse-------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
46D:					
Colosse-------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
47A:					
Scio----------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
47B:					
Scio----------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
50:					
Wareham-------------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00		
54D:					
Colton--------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00		
55A:					
Adams---------------	65	Very limited		Very limited	
		Poor filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
55B:					
Adams---------------	65	Very limited		Very limited	
		Poor filtering capacity	1.00	Seepage	1.00
				Slope	0.92
		Seepage, bottom layer	1.00		
55C:					
Adams---------------	70	Very limited		Very limited	
		Poor filtering capacity	1.00	Slope	1.00
				Seepage	1.00
		Seepage, bottom layer	1.00		
		Slope	0.63		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
55D:					
Adams---------------	70	Very limited		Very limited	
		Poor filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
55E:					
Adams---------------	70	Very limited		Very limited	
		Poor filtering capacity	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
56B:					
Becket, very bouldery-----------	40	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Slope	0.92
		Slow water movement	0.50	Seepage	0.50
				Depth to saturated zone	0.04
Skerry, very bouldery-----------	35	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
56C:					
Becket, very bouldery-----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Seepage	0.50
		Slow water movement	0.50	Depth to saturated zone	0.04
Skerry, very bouldery-----------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.50	Depth to saturated zone	0.88
		Slope	0.04	Seepage	0.50
57A:					
Croghan-------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
57B:					
Croghan-------------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00	Slope	0.92
60B:					
Adirondack, somewhat poorly drained, very bouldery------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.99	Slope	0.68
				Seepage	0.50
Adirondack, poorly drained, very bouldery-----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.99	Seepage	0.50
61A:					
Schoharie-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
61B:					
Schoharie-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
61C:					
Schoharie-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
61E:					
Schoharie-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
62C:					
Becket, very bouldery-----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
		Slope	0.04	Depth to saturated zone	0.04
Tunbridge, very bouldery-----------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.04	Seepage	1.00
62D:					
Becket, very bouldery-----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
		Slow water movement	0.50	Depth to saturated zone	0.04
Tunbridge, very bouldery-----------	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
63A:					
Wallington----------	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
63B:					
Wallington----------	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
				Slope	0.32
64A:					
Rhinebeck-----------	80	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
64B:					
Rhinebeck-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
65F:					
Tunbridge, very bouldery-----------	40	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Lyman---------------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
68:					
Wakeville, rarely flooded------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
		Flooding	0.40	Flooding	0.40
72:					
Canandaigua---------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.08
74B:					
Berkshire-----------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
74C:					
Berkshire-----------	70	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
75:					
Lamson--------------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76:					
Niagara	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.92	Seepage	0.50
77A:					
Collamer	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
77B:					
Collamer	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.92
				Seepage	0.50
77C:					
Collamer	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.50
77D:					
Collamer	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
78A:					
Arkport	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
78B:					
Arkport	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
78C:					
Arkport	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
79A:					
Roundabout	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.27

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
79B:					
Roundabout----------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.32
				Seepage	0.27
81A:					
Covert--------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00		
81B:					
Covert--------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00	Slope	0.32
90A:					
Windsor-------------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00		
90B:					
Windsor-------------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00	Slope	0.68
90C:					
Windsor-------------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Poor filtering capacity	1.00	Seepage	1.00
		Slope	0.63		
90D:					
Windsor-------------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
90E:					
Windsor	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Poor filtering capacity	1.00		
92:					
Napoleon	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Organic matter content	1.00
94:					
Naumburg, somewhat poorly drained	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00		
Naumburg, poorly drained	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00		
95:					
Carlisle	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Slow water movement	1.00	Organic matter content	1.00
99:					
Greenwood	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
102B:					
Honeoye	75	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
102C:					
Honeoye-------------	75	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
102D:					
Honeoye-------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
103B:					
Honeoye-------------	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
Urban land----------	30	Not rated		Not rated	
104E:					
Honeoye-------------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
Cazenovia-----------	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Seepage	0.01
109B:					
Cazenovia-----------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Seepage	0.01
109C:					
Cazenovia-----------	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.01
109D:					
Cazenovia-----------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Seepage	0.01
111B:					
Lansing-------------	75	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
111C:					
Lansing	75	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
111D:					
Lansing	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
111E:					
Lansing	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
113A:					
Camroden	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
113B:					
Camroden	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Slope	0.92
				Seepage	0.50
113C:					
Camroden	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
				Seepage	0.50
114B:					
Pinckney	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Slow water movement	0.50	Depth to saturated zone	0.88
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
114C:					
Pinckney------------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.88
		Slow water movement	0.50	Seepage	0.50
114D:					
Pinckney------------	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88
		Slow water movement	0.50	Seepage	0.50
115B:					
Chadakoin-----------	75	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Slow water movement	0.72	Slope	0.92
				Seepage	0.50
115C:					
Chadakoin-----------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.72	Depth to saturated zone	0.98
		Slope	0.63	Seepage	0.50
115D:					
Chadakoin-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98
		Slow water movement	0.72	Seepage	0.50
115E:					
Chadakoin-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.98
		Slow water movement	0.72	Seepage	0.50
117A:					
Pittsfield----------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
117B:					
Pittsfield----------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
117C:					
Pittsfield----------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
				Seepage	1.00
		Slope	0.63		
117D:					
Pittsfield----------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
117E:					
Pittsfield----------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
119B:					
Pyrities------------	65	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.92
				Seepage	0.50
119C:					
Pyrities------------	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	0.63		
119D:					
Pyrities------------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.50
119E:					
Pyrities------------	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.50
120C:					
Pyrities, rolling, very bouldery------	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	0.63		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
121B:					
Worth	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	0.92
				Seepage	0.50
		Slow water movement	0.99	Depth to saturated zone	0.48
121C:					
Worth	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	0.50
		Slow water movement	0.99	Depth to saturated zone	0.48
		Slope	0.63		
121D:					
Worth	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	0.50
		Slope	1.00	Depth to saturated zone	0.48
		Slow water movement	0.99		
121E:					
Worth	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	0.50
		Slope	1.00	Depth to saturated zone	0.48
		Slow water movement	0.99		
126A:					
Lima	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	0.50	Seepage	0.50
126B:					
Lima	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
126C:					
Lima	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.99
		Slow water movement	0.50	Seepage	0.50
133B:					
Empeyville	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Slope	0.92
				Seepage	0.50
133C:					
Empeyville	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
				Seepage	0.50
136A:					
Kendaia	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
136B:					
Kendaia	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
				Seepage	0.50
144A:					
Westbury	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
144B:					
Westbury	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Slope	0.68
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
146:					
Lyons	85	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.27
150:					
Tughill, stony	75	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
				Seepage	0.18
151:					
Chippewa	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
152B:					
Farmington	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	0.68
				Seepage	0.50
153C:					
Farmington	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
				Seepage	0.50
Rock outcrop	25	Not rated		Not rated	
153D:					
Farmington	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
155:					
Dannemora, stony	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
156B:					
Lairdsville, well drained------------	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Depth to soft bedrock	1.00
				Slope	0.92
156C:					
Lairdsville, well drained------------	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Depth to soft bedrock	1.00
				Slope	1.00
156E:					
Lairdsville, well drained------------	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	1.00
162B:					
Ischua--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Slope	0.68
				Seepage	0.50
162C:					
Ischua--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.50
162D:					
Ischua--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
168B:					
Manlius-------------	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
168C:					
Manlius-------------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
168D:					
Manlius-------------	75	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
168E:					
Manlius-------------	85	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
173B:					
Mongaup-------------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water	0.50		
		movement	0.50	Slope	0.92
				Seepage	0.50
173C:					
Mongaup-------------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
173E:					
Mongaup-------------	80	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
176B:					
Nellis--------------	70	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.92
				Seepage	0.50
176C:					
Nellis--------------	70	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.50
		Slope	0.63		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
176D:					
Nellis	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	0.50
195:					
Palms, drained	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
				Organic matter content	1.00
200B:					
Bice	70	Somewhat limited		Very limited	
		Slow water movement	0.98	Seepage	1.00
				Slope	0.92
200C:					
Bice	70	Somewhat limited		Very limited	
		Slow water movement	0.98	Slope	1.00
				Seepage	1.00
		Slope	0.63		
200D:					
Bice	70	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.98	Seepage	1.00
200E:					
Bice	80	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.98	Seepage	1.00
212:					
Adrian	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
				Organic matter content	1.00
		Poor filtering capacity	1.00		
221B:					
Kalurah	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
221C:					
Kalurah	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
221D:					
Kalurah	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		
221E:					
Kalurah	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		
223A:					
Malone	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Seepage	0.08
223B:					
Malone	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Slope	0.92
				Seepage	0.08
223C:					
Malone	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.98	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.08
256D:					
Becket, very bouldery	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
		Slow water movement	0.50	Depth to saturated zone	0.04

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
260A:					
Ovid----------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
260B:					
Ovid----------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
267B:					
Greene--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Slope	0.68
267C:					
Greene--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slope	0.16		
269:					
Greene--------------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00		
Tuller--------------	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
295:					
Carlisle, drained---	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Slow water movement	1.00	Organic matter content	1.00
350A:					
Alton---------------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
350B:					
Alton	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
350C:					
Alton	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
355B:					
Arnot	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	0.92
				Seepage	0.50
372A:					
Appleton	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
372B:					
Appleton	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.92
395:					
Palms	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
				Organic matter content	1.00
397:					
Wonsqueak	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00
		Slow water movement	0.72	Organic matter content	1.00
398:					
Dawson	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00	Organic matter content	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
413B:					
Venango	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
413C:					
Venango	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
414B:					
Mardin	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Slow water movement	0.50	Depth to saturated zone	0.92
				Seepage	0.50
414C:					
Mardin	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.92
		Slow water movement	0.50	Seepage	0.50
414D:					
Mardin	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.92
		Slow water movement	0.50	Seepage	0.50
461:					
Marcy	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
462:					
Runeberg------------	65	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
515A:					
Galway, well drained	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
515B:					
Galway, well drained	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
515C:					
Galway, well drained	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
565B:					
Aurora--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Depth to saturated zone	1.00
				Slope	0.92
565C:					
Aurora--------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
				Depth to saturated zone	1.00
565D:					
Aurora--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
				Depth to saturated zone	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
565E:					
Aurora--------------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
				Depth to saturated zone	1.00
582A:					
Amenia--------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
582B:					
Amenia--------------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
				Seepage	0.50
747A:					
Manheim-------------	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
747B:					
Manheim-------------	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
747C:					
Manheim-------------	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04		
750B:					
Minoa---------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.08

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
790A:					
Conesus-------------	75	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.92
		Slow water movement	0.50	Seepage	0.50
790B:					
Conesus-------------	75	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.92
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
790C:					
Conesus-------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.92
		Slow water movement	0.50	Seepage	0.50
801B:					
Alton, cool---------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
801C:					
Alton, cool---------	75	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
802D:					
Howard, cool--------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Alton, cool---------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
802E:					
Howard, cool--------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Alton, cool---------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
804:					
Chippewa, stony-----	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
807A:					
Manheim, cool-------	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
807B:					
Manheim, cool-------	65	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
807C:					
Manheim, cool-------	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04		
811B:					
Empeyville, warm----	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Slope	0.92
				Seepage	0.50
811C:					
Empeyville, warm----	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	1.00
				Seepage	0.50
813B:					
Gretor--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
				Slope	0.32

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
813C:					
Gretor	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.50
814:					
Gretor	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
Torull	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.01
816B:					
Herkimer, cool	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
818B:					
Kalurah, warm	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
818C:					
Kalurah, warm	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
818D:					
Kalurah, warm	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
818E:					
Kalurah, warm-------	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		
819A:					
Kendaia, cool-------	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
819B:					
Kendaia, cool-------	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
				Seepage	0.50
823A:					
Malone, warm--------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Seepage	0.08
823B:					
Malone, warm--------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.98	Slope	0.92
				Seepage	0.08
823C:					
Malone, warm--------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.98	Depth to saturated zone	1.00
		Slope	0.63	Seepage	0.08
825B:					
Pinckney, warm------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Slow water movement	0.50	Depth to saturated zone	0.88
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
825C:					
Pinckney, warm	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Depth to saturated zone	0.88
		Slow water movement	0.50	Seepage	0.50
825D:					
Pinckney, warm	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	0.88
		Slow water movement	0.50	Seepage	0.50
831:					
Tughill, stony, warm	75	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
				Seepage	0.18
833A:					
Westbury, warm	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.50
833B:					
Westbury, warm	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Slope	0.68
				Seepage	0.50
838B:					
Worth, warm	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Slow water movement	0.99	Seepage	0.50
				Depth to saturated zone	0.48

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
838C:					
Worth, warm---------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	0.99	Seepage	0.50
		Slope	0.63	Depth to saturated zone	0.48
838D:					
Worth, warm---------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
		Slow water movement	0.99	Depth to saturated zone	0.48
838E:					
Worth, warm---------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50
		Slow water movement	0.99	Depth to saturated zone	0.48
842B:					
Farmington, cool----	80	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
				Slope	0.68
				Seepage	0.50
843D:					
Farmington, cool----	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop--------	35	Not rated		Not rated	
845A:					
Galway, cool--------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
845B:					
Galway, cool--------	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50

Table 16.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
845C:					
Galway, cool	75	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
858A:					
Chenango, red substratum	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
858B:					
Chenango, red substratum	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.92
858C:					
Chenango, red substratum	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
858D:					
Chenango, red substratum	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
858E:					
Chenango, red substratum	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
982:					
Wallkill	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Poor filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Organic matter content	1.00
W:					
Water	100	Not rated		Not rated	

Table 17.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.47
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Fluvaquents, frequently flooded, warm----------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
2:							
Hamlin--------------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.01
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
4:							
Wakeville, occasionally flooded------------	70	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
7:							
Wayland-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Too clayey	0.50				
9:							
Wenonah-------------	80	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
				Seepage	1.00		
10:							
Otego---------------	70	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.98
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
12B:							
Herkimer------------	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.76
						Gravel content	0.07

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:							
Herkimer------------	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.76
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.07
13:							
Fluvaquents, frequently flooded, cool---------------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Borosaprists--------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00			Seepage	0.15
20:							
Pits, sand and gravel-------------	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum---------	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land----------	75	Not rated		Not rated		Not rated	
24A:							
Howard--------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
24B:							
Howard--------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
24C:							
Howard--------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
				Slope	0.63	Gravel content	0.66
		Slope	0.63			Slope	0.63
25:							
Pits, quarry--------	70	Not rated		Not rated		Not rated	

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
27A:							
Nicholville	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
27B:							
Nicholville	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
28A:							
Phelps	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.99
		Too sandy	0.50			Gravel content	0.89
						Too sandy	0.50
28B:							
Phelps	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.99
		Too sandy	0.50			Gravel content	0.89
						Too sandy	0.50
30:							
Fredon, somewhat poorly drained	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Gravel content	0.70
						Too sandy	0.50
Fredon, poorly drained	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Gravel content	0.70
						Too sandy	0.50
31:							
Halsey	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	0.66
33A:							
Alton	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
Urban land	30	Not rated		Not rated		Not rated	

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33B:							
Alton---------------	40	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
Urban land----------	30	Not rated		Not rated		Not rated	
34D:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
34E:							
Howard--------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
Alton---------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
35A:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35B:							
Unadilla------------	80	Not limited		Not limited		Not limited	
35C:							
Unadilla------------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
36B:							
Salmon--------------	85	Not limited		Not limited		Not limited	
38A:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.95
38B:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.95

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38C:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.63	Seepage	1.00
		Too sandy	1.00			Gravel content	0.95
		Slope	0.63			Slope	0.63
38D:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.95
38E:							
Chenango------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.95
39A:							
Knickerbocker-------	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
39B:							
Knickerbocker-------	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00				
39C:							
Knickerbocker-------	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.63	Seepage	1.00
		Too sandy	1.00			Slope	0.63
		Slope	0.63				
41:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
42:							
Castile-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
						Depth to saturated zone	0.99
		Seepage, bottom layer	1.00	Seepage	1.00		
						Gravel content	0.97

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43:							
Jebavy	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Depth to thin cemented pan	0.50			Seepage	1.00
46A:							
Colosse	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.26
		Content of large stones	0.01			Content of large stones	0.01
46B:							
Colosse	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.26
		Content of large stones	0.01			Content of large stones	0.01
46C:							
Colosse	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.63	Seepage	1.00
		Too sandy	1.00			Slope	0.63
		Slope	0.63			Gravel content	0.26
		Content of large stones	0.01			Content of large stones	0.01
46D:							
Colosse	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	0.26
		Content of large stones	0.01			Content of large stones	0.01
47A:							
Scio	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
47B:							
Scio	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Wareham------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
54D:							
Colton-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	0.87
55A:							
Adams--------------	65	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
55B:							
Adams--------------	65	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
55C:							
Adams--------------	70	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.63	Seepage	1.00
						Slope	0.63
55D:							
Adams--------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.50
55E:							
Adams--------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	0.50
56B:							
Becket, very bouldery----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Depth to saturated zone	0.24
Skerry, very bouldery----------	35	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56C:							
Becket, very bouldery	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.68	Slope	0.63	Slope	0.63
		Slope	0.63	Depth to saturated zone	0.04	Depth to saturated zone	0.24
Skerry, very bouldery	35	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Slope	0.04	Slope	0.04	Slope	0.04
57A:							
Croghan	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
		Too sandy	1.00			Depth to saturated zone	0.95
57B:							
Croghan	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.95
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Adirondack, poorly drained, very bouldery	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
61A:							
Schoharie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	0.68
61B:							
Schoharie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	0.68

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61C:							
Schoharie	85	Very limited Depth to saturated zone Too clayey Slope	 1.00 1.00 0.63	Very limited Depth to saturated zone Slope	 1.00 0.63	Very limited Too clayey Depth to saturated zone Slope	 1.00 0.68 0.63
61E:							
Schoharie	85	Very limited Depth to saturated zone Slope Too clayey	 1.00 1.00 1.00	Very limited Slope Depth to saturated zone	 1.00 1.00	Very limited Slope Too clayey Depth to saturated zone	 1.00 1.00 0.68
62C:							
Becket, very bouldery	45	Somewhat limited Depth to saturated zone Slope	 0.68 0.04	Somewhat limited Slope Depth to saturated zone	 0.04 0.04	Somewhat limited Depth to saturated zone Slope	 0.24 0.04
Tunbridge, very bouldery	35	Very limited Depth to bedrock Seepage, bottom layer Slope	 1.00 1.00 0.04	Very limited Depth to bedrock Seepage Slope	 1.00 1.00 0.04	Very limited Depth to bedrock Seepage Slope	 1.00 0.21 0.04
62D:							
Becket, very bouldery	40	Very limited Slope Depth to saturated zone	 1.00 0.68	Very limited Slope Depth to saturated zone	 1.00 0.04	Very limited Slope Depth to saturated zone	 1.00 0.24
Tunbridge, very bouldery	35	Very limited Slope Depth to bedrock Seepage, bottom layer	 1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	 1.00 1.00 1.00	Very limited Slope Depth to bedrock Seepage	 1.00 1.00 0.21
63A:							
Wallington	80	Very limited Depth to saturated zone Depth to thin cemented pan	 1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	 1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	 1.00 1.00
63B:							
Wallington	80	Very limited Depth to saturated zone Depth to thin cemented pan	 1.00 0.50	Very limited Depth to cemented pan Depth to saturated zone	 1.00 1.00	Very limited Depth to cemented pan Depth to saturated zone	 1.00 1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64A:							
Rhinebeck-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
64B:							
Rhinebeck-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
65F:							
Tunbridge, very bouldery-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
Lyman---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00			Seepage	0.50
						Gravel content	0.05
68:							
Wakeville, rarely flooded------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
72:							
Canandaigua---------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
74B:							
Berkshire-----------	70	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
74C:							
Berkshire-----------	70	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.21
		Slope	0.63				
75:							
Lamson--------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.50			Too sandy	0.50
76:							
Niagara-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77A:							
Collamer	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
77B:							
Collamer	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
77C:							
Collamer	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
77D:							
Collamer	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
78A:							
Arkport	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.88
78B:							
Arkport	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.88
78C:							
Arkport	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Slope	0.63	Seepage	0.88
		Slope	0.63			Slope	0.63
79A:							
Roundabout	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
79B:							
Roundabout	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
81A:							
Covert	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
81B:							
Covert	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00			Depth to saturated zone	0.86
90A:							
Windsor	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
90B:							
Windsor	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
90C:							
Windsor	80	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00	Slope	0.63	Seepage	1.00
		Slope	0.63			Slope	0.63
90D:							
Windsor	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
90E:							
Windsor	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
92:							
Napoleon	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00			Seepage	0.09
94:							
Naumburg, somewhat poorly drained	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
94:							
Naumburg, poorly drained-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
95:							
Carlisle------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
						Seepage	0.15
99:							
Greenwood-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
102B:							
Honeoye-------------	75	Not limited		Not limited		Not limited	
102C:							
Honeoye-------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
102D:							
Honeoye-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
103B:							
Honeoye-------------	40	Not limited		Not limited		Not limited	
Urban land----------	30	Not rated		Not rated		Not rated	
104E:							
Honeoye-------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Cazenovia-----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50
109B:							
Cazenovia-----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109C:							
Cazenovia-----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
109D:							
Cazenovia-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Too clayey	0.50			Too clayey	0.50
111B:							
Lansing------------	75	Not limited		Not limited		Not limited	
111C:							
Lansing------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
111D:							
Lansing------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
111E:							
Lansing------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
113A:							
Camroden-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
113B:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
113C:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
114B:							
Pinckney-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.88	Depth to saturated zone	0.93

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114C:							
Pinckney------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Depth to thin cemented pan	0.50	Slope	0.63	Slope	0.63
114D:							
Pinckney------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.88	Depth to saturated zone	0.93
115B:							
Chadakoin-----------	75	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.02
115C:							
Chadakoin-----------	80	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.63
						Gravel content	0.02
		Slope	0.63	Slope	0.63		
115D:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	1.00	Gravel content	0.02
		Slope	1.00				
115E:							
Chadakoin-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
				Depth to saturated zone	1.00	Gravel content	0.02
		Slope	1.00				
117A:							
Pittsfield----------	75	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
117B:							
Pittsfield----------	75	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
117C:							
Pittsfield----------	75	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.21
		Slope	0.63				

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117D:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
117E:							
Pittsfield----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
119B:							
Pyrities------------	65	Not limited		Not limited		Not limited	
119C:							
Pyrities------------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
119D:							
Pyrities------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
119E:							
Pyrities------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
120C:							
Pyrities, rolling, very bouldery------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
121B:							
Worth---------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.96	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71
121C:							
Worth---------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.96	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.71
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Slope	0.63
121D:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.96	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121E:							
Worth---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.96	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71
126A:							
Lima----------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
126B:							
Lima----------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
126C:							
Lima----------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
133B:							
Empeyville----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.01
133C:							
Empeyville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Slope	0.63	Slope	0.63
						Gravel content	0.01
136A:							
Kendaia-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
136B:							
Kendaia-------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
144A:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
144B:							
Westbury------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
146:							
Lyons---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
150:							
Tughill, stony------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.10
151:							
Chippewa------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
152B:							
Farmington----------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
153C:							
Farmington----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
155:							
Dannemora, stony----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Seepage	0.21
						Gravel content	0.02
156B:							
Lairdsville, well drained------------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156C:							
Lairdsville, well drained------------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
156E:							
Lairdsville, well drained------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
162B:							
Ischua--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.91
						Gravel content	0.17
162C:							
Ischua--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.91
		Slope	0.63	Slope	0.63	Slope	0.63
						Gravel content	0.17
162D:							
Ischua--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.91
						Gravel content	0.17
168B:							
Manlius-------------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.98
168C:							
Manlius-------------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	0.98
						Slope	0.63
168D:							
Manlius-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.98
168E:							
Manlius-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.98

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
173B:							
Mongaup-------------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
173C:							
Mongaup-------------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
173E:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
176B:							
Nellis--------------	70	Not limited		Not limited		Not limited	
176C:							
Nellis--------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
176D:							
Nellis--------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
195:							
Palms, drained------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
200B:							
Bice----------------	70	Not limited		Very limited		Not limited	
				Seepage	1.00		
200C:							
Bice----------------	70	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Seepage	1.00	Slope	0.63
				Slope	0.63		
200D:							
Bice----------------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Seepage	1.00		
200E:							
Bice----------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Seepage	1.00		
212:							
Adrian--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
						Gravel content	0.03

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
221B:							
Kalurah	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
221C:							
Kalurah	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
221D:							
Kalurah	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
221E:							
Kalurah	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
223A:							
Malone	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
223B:							
Malone	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
223C:							
Malone	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
256D:							
Becket, very bouldery	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.68	Depth to saturated zone	0.04	Depth to saturated zone	0.24
260A:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
260B:							
Ovid	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
267B:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
267C:							
Greene	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.16	Slope	0.16	Slope	0.16
269:							
Greene	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Tuller	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
295:							
Carlisle, drained	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
						Seepage	0.15
350A:							
Alton	75	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
350B:							
Alton	75	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
350C:							
Alton	75	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
						Seepage	0.50
355B:							
Arnot	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.81
372A:							
Appleton	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.14

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
372B:							
Appleton-----------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.14
395:							
Palms--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
397:							
Wonsqueak----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	1.00		
398:							
Dawson-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
413B:							
Venango------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
413C:							
Venango------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Slope	0.63	Slope	0.63
414B:							
Mardin-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
414C:							
Mardin-------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
		Slope	0.63	Slope	0.63	Slope	0.63

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
414D:							
Mardin--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
461:							
Marcy---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
462:							
Runeberg------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
515A:							
Galway, well drained	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
515B:							
Galway, well drained	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
515C:							
Galway, well drained	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
565B:							
Aurora--------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.99
565C:							
Aurora--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
565D:							
Aurora--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.99

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
565E:							
Aurora	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	0.99
582A:							
Amenia	75	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Gravel content	0.01
582B:							
Amenia	75	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Gravel content	0.01
747A:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
747B:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
747C:							
Manheim	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
750B:							
Minoa	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
790A:							
Conesus	75	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
		Too clayey	0.50			Too clayey	0.50
790B:							
Conesus	75	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
		Too clayey	0.50			Too clayey	0.50

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
790C:							
Conesus-------------	75	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.92	Depth to saturated zone	0.95
		Slope	0.63	Slope	0.63	Slope	0.63
		Too clayey	0.50			Too clayey	0.50
801B:							
Alton, cool---------	75	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
801C:							
Alton, cool---------	75	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
				Slope	0.63	Slope	0.63
		Slope	0.63			Seepage	0.50
802D:							
Howard, cool--------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
Alton, cool---------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
802E:							
Howard, cool--------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
						Gravel content	0.66
Alton, cool---------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	1.00
						Seepage	0.50
804:							
Chippewa, stony-----	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
807A:							
Manheim, cool-------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
807B:							
Manheim, cool-------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
807C:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
811B:							
Empeyville, warm	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.01
811C:							
Empeyville, warm	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to thin cemented pan	0.50	Slope	0.63	Slope	0.63
						Gravel content	0.01
813B:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
813C:							
Gretor	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
814:							
Gretor	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Torull	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
816B:							
Herkimer, cool	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.76
						Gravel content	0.07
818B:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
818C:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
818D:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
818E:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
819A:							
Kendaia, cool	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
819B:							
Kendaia, cool	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
823A:							
Malone, warm	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
823B:							
Malone, warm	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
823C:							
Malone, warm	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
825B:							
Pinckney, warm	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.88	Depth to saturated zone	0.93
825C:							
Pinckney, warm	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Depth to saturated zone	0.88	Depth to saturated zone	0.93
		Depth to thin cememted pan	0.50	Slope	0.63	Slope	0.63

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
825D:							
Pinckney, warm------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.88	Depth to saturated zone	0.93
831:							
Tughill, stony, warm	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Gravel content	0.10
833A:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
833B:							
Westbury, warm------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
838B:							
Worth, warm---------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.96	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71
838C:							
Worth, warm---------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.96	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.63	Slope	0.63	Depth to saturated zone	0.71
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Slope	0.63
838D:							
Worth, warm---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.96	Slope	1.00	Slope	1.00
		Depth to thin cememted pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71
838E:							
Worth, warm---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	0.96	Slope	1.00	Slope	1.00
		Depth to thin cemented pan	0.50	Depth to saturated zone	0.48	Depth to saturated zone	0.71

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
842B:							
Farmington, cool----	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
843D:							
Farmington, cool----	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
Rock outcrop--------	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool--------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
845B:							
Galway, cool--------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
845C:							
Galway, cool--------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
858A:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	1.00
858B:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	1.00
858C:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
				Slope	0.63	Seepage	1.00
		Too sandy	1.00			Gravel content	1.00
		Slope	0.63			Slope	0.63
858D:							
Chenango, red substratum---------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
						Seepage	1.00
		Too sandy	1.00			Gravel content	1.00

Table 17.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
858E:							
Chenango, red substratum	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
						Gravel content	1.00
982:							
Wallkill	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00				
W:							
Water	100	Not rated		Not limited		Not rated	

Table 18.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The table indicates the probability that the thickest layer and the bottom layer of the soil are sources of sand and gravel. The thickest layer is above any restrictive layer, and it excludes the bottom layer. Hydric soils are considered improbable sources regardless of whether they meet other criteria. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
1:					
Udifluvents, frequently flooded	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fluvaquents, frequently flooded, warm	35	Improbable		Improbable	
		Hydric soil	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
2:					
Hamlin	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4:					
Wakeville, occasionally flooded	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7:					
Wayland	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
9:					
Wenonah	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.50
10:					
Otego	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12B:					
Herkimer	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
12C:					
Herkimer------------	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
13:					
Fluvaquents, frequently flooded, cool---------------	45	Improbable		Improbable	
		Hydric soil	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
Borosaprists--------	35	Improbable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
		Bottom layer	0.00	Bottom layer	0.43
20:					
Pits, sand and gravel-------------	70	Not rated		Not rated	
21:					
Udorthents, refuse substratum---------	85	Not rated		Not rated	
22:					
Udorthents, smoothed	75	Not rated		Not rated	
23:					
Urban land----------	75	Not rated		Not rated	
24A:					
Howard--------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
24B:					
Howard--------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
24C:					
Howard--------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
25:					
Pits, quarry--------	70	Not rated		Not rated	
27A:					
Nicholville---------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
27B:					
Nicholville---------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
28A:					
Phelps--------------	80	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.58
28B:					
Phelps--------------	80	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.58
30:					
Fredon, somewhat poorly drained-----	70	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.31
Fredon, poorly drained------------	15	Improbable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
		Bottom layer	0.00	Bottom layer	0.31
31:					
Halsey--------------	85	Improbable		Improbable	
		Hydric soil	0.00	Hydric soil	0.00
		Bottom layer	0.00	Bottom layer	0.09
		Thickest layer	0.00	Thickest layer	0.13
33A:					
Alton---------------	40	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
Urban land----------	30	Not rated		Not rated	
33B:					
Alton---------------	40	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
Urban land----------	30	Not rated		Not rated	
34D:					
Howard--------------	60	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
Alton---------------	30	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
34E:					
Howard--------------	60	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
Alton---------------	30	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
35A:					
Unadilla------------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
35B:					
Unadilla------------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
35C:					
Unadilla------------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
36B:					
Salmon--------------	85	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
38A:					
Chenango------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.57
38B:					
Chenango------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.57
38C:					
Chenango------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.57
38D:					
Chenango------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.57
38E:					
Chenango------------	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.57
39A:					
Knickerbocker-------	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.20
		Thickest layer	0.00	Bottom layer	0.90
39B:					
Knickerbocker-------	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.20
		Thickest layer	0.00	Bottom layer	0.90
39C:					
Knickerbocker-------	80	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.20
		Thickest layer	0.00	Bottom layer	0.90

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
41:					
Niagara	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
42:					
Castile	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
43:					
Jebavy	70	Improbable		Improbable	
		Bottom layer	0.00	Hydric soil	0.00
		Thickest layer	0.00	Thickest layer	0.90
		Hydric soil	0.00	Bottom layer	0.99
46A:					
Colosse	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.14
46B:					
Colosse	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.14
46C:					
Colosse	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.14
46D:					
Colosse	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.14
47A:					
Scio	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
47B:					
Scio	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
50:					
Wareham	70	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.23
		Bottom layer	0.00	Bottom layer	0.43
54D:					
Colton	85	Improbable		Probable	
		Thickest layer	0.00	Thickest layer	0.17
		Bottom layer	0.00	Bottom layer	0.80
55A:					
Adams	65	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.84
		Thickest layer	0.00	Bottom layer	0.99

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
55B:					
Adams---------------	65	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.84
		Thickest layer	0.00	Bottom layer	0.99
55C:					
Adams---------------	70	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.84
		Thickest layer	0.00	Bottom layer	0.99
55D:					
Adams---------------	70	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.84
		Thickest layer	0.00	Bottom layer	0.99
55E:					
Adams---------------	70	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.84
		Thickest layer	0.00	Bottom layer	0.99
56B:					
Becket, very bouldery-----------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Skerry, very bouldery-----------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
56C:					
Becket, very bouldery-----------	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Skerry, very bouldery-----------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
57A:					
Croghan-------------	65	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
57B:					
Croghan-------------	70	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
60B:					
Adirondack, somewhat poorly drained, very bouldery------	55	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
60B:					
Adirondack, poorly drained, very bouldery	30	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
61A:					
Schoharie	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
61B:					
Schoharie	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
61C:					
Schoharie	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
61E:					
Schoharie	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
62C:					
Becket, very bouldery	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tunbridge, very bouldery	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
62D:					
Becket, very bouldery	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tunbridge, very bouldery	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
63A:					
Wallington	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
63B:					
Wallington	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
64A:					
Rhinebeck-----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
64B:					
Rhinebeck-----------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
65F:					
Tunbridge, very bouldery-----------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lyman---------------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
68:					
Wakeville, rarely flooded-----------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
72:					
Canandaigua---------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
74B:					
Berkshire-----------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
74C:					
Berkshire-----------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
75:					
Lamson--------------	70	Improbable		Improbable	
		Bottom layer	0.00	Hydric soil	0.00
		Thickest layer	0.00	Thickest layer	0.31
		Hydric soil	0.00	Bottom layer	0.36
76:					
Niagara-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77A:					
Collamer------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
77B:					
Collamer------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77C:					
Collamer------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
77D:					
Collamer------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
78A:					
Arkport-------------	85	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.98
78B:					
Arkport-------------	85	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.98
78C:					
Arkport-------------	85	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.98
79A:					
Roundabout----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
79B:					
Roundabout----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
81A:					
Covert--------------	65	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.90
		Thickest layer	0.00	Bottom layer	0.99
81B:					
Covert--------------	65	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.90
		Thickest layer	0.00	Bottom layer	0.99
90A:					
Windsor-------------	80	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
90B:					
Windsor-------------	80	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
90C:					
Windsor-------------	80	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
90D:					
Windsor-------------	80	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
90E:					
Windsor-------------	90	Improbable		Probable	
		Bottom layer	0.00	Bottom layer	0.99
		Thickest layer	0.00	Thickest layer	0.99
92:					
Napoleon------------	85	Improbable		Improbable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
		Hydric soil	0.00	Bottom layer	0.43
94:					
Naumburg, somewhat poorly drained-----	50	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.31
		Thickest layer	0.00	Bottom layer	0.43
Naumburg, poorly drained------------	35	Improbable		Improbable	
		Bottom layer	0.00	Hydric soil	0.00
		Thickest layer	0.00	Thickest layer	0.31
		Hydric soil	0.00	Bottom layer	0.43
95:					
Carlisle------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
99:					
Greenwood-----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
102B:					
Honeoye-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
102C:					
Honeoye-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
102D:					
Honeoye-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
103B:					
Honeoye-------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land----------	30	Not rated		Not rated	
104E:					
Honeoye-------------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cazenovia-----------	40	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
109B:					
Cazenovia-----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
109C:					
Cazenovia-----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
109D:					
Cazenovia-----------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
111B:					
Lansing-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
111C:					
Lansing-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
111D:					
Lansing-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
111E:					
Lansing-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
113A:					
Camroden------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
113B:					
Camroden------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
113C:					
Camroden------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
114B:					
Pinckney------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
114C:					
Pinckney------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
114D:					
Pinckney------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
115B:					
Chadakoin-----------	75	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
115C:					
Chadakoin-----------	80	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
115D:					
Chadakoin-----------	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
115E:					
Chadakoin-----------	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
117A:					
Pittsfield----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
117B:					
Pittsfield----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
117C:					
Pittsfield----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
117D:					
Pittsfield----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
117E:					
Pittsfield----------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
119B:					
Pyrities------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
119C:					
Pyrities------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
119D:					
Pyrities------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
119E:					
Pyrities------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
120C:					
Pyrities, rolling, very bouldery------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
121B:					
Worth---------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
121C:					
Worth---------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
121D:					
Worth---------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
121E:					
Worth---------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
126A:					
Lima----------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
126B:					
Lima----------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
126C:					
Lima	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
133B:					
Empeyville	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
133C:					
Empeyville	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
136A:					
Kendaia	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
136B:					
Kendaia	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
144A:					
Westbury	90	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
144B:					
Westbury	90	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
146:					
Lyons	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Hydric soil	0.00	Thickest layer	0.00
		Bottom layer	0.00	Hydric soil	0.00
150:					
Tughill, stony	75	Improbable		Improbable	
		Hydric soil	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
151:					
Chippewa	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
152B:					
Farmington	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
153C:					
Farmington----------	50	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	25	Not rated		Not rated	
153D:					
Farmington----------	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
155:					
Dannemora, stony----	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
156B:					
Lairdsville, well drained------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
156C:					
Lairdsville, well drained------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
156E:					
Lairdsville, well drained------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
162B:					
Ischua--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
162C:					
Ischua--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
162D:					
Ischua--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
168B:					
Manlius-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
168C:					
Manlius-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
168D:					
Manlius-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
168E:					
Manlius-------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
173B:					
Mongaup-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
173C:					
Mongaup-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
173E:					
Mongaup-------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176B:					
Nellis--------------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176C:					
Nellis--------------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176D:					
Nellis--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
195:					
Palms, drained------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
200B:					
Bice----------------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
200C:					
Bice----------------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
200D:					
Bice----------------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
200E:					
Bice	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
212:					
Adrian	85	Improbable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
		Bottom layer	0.00	Bottom layer	0.43
221B:					
Kalurah	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
221C:					
Kalurah	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
221D:					
Kalurah	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
221E:					
Kalurah	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
223A:					
Malone	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
223B:					
Malone	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
223C:					
Malone	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
256D:					
Becket, very bouldery	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
260A:					
Ovid	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
260B:					
Ovid----------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
267B:					
Greene--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
267C:					
Greene--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
269:					
Greene--------------	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tuller--------------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
295:					
Carlisle, drained---	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
350A:					
Alton---------------	75	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
350B:					
Alton---------------	75	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
350C:					
Alton---------------	75	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
355B:					
Arnot---------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
372A:					
Appleton------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
372B:					
Appleton------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
395:					
Palms---------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
397:					
Wonsqueak-----------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
398:					
Dawson--------------	85	Improbable		Improbable	
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
		Bottom layer	0.00	Bottom layer	0.99
413B:					
Venango-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
413C:					
Venango-------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
414B:					
Mardin--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
414C:					
Mardin--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
414D:					
Mardin--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
461:					
Marcy---------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
462:					
Runeberg------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
515A:					
Galway, well drained	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
515B:					
Galway, well drained	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
515C:					
Galway, well drained	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
565B:					
Aurora--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
565C:					
Aurora--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
565D:					
Aurora--------------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
565E:					
Aurora--------------	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
582A:					
Amenia--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
582B:					
Amenia--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
747A:					
Manheim-------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
747B:					
Manheim-------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
747C:					
Manheim-------------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
750B:					
Minoa---------------	65	Improbable		Probable	
		Bottom layer	0.00	Thickest layer	0.20
		Thickest layer	0.00	Bottom layer	0.76

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Potential as a source of gravel: Value	Potential as a source of sand: Rating class	Potential as a source of sand: Value
790A:					
Conesus	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
790B:					
Conesus	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
790C:					
Conesus	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
801B:					
Alton, cool	75	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
801C:					
Alton, cool	75	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
802D:					
Howard, cool	60	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
Alton, cool	30	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
802E:					
Howard, cool	60	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.76
Alton, cool	30	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.20
804:					
Chippewa, stony	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
807A:					
Manheim, cool	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
807B:					
Manheim, cool	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel: Rating class	Value	Potential as a source of sand: Rating class	Value
807C:					
Manheim, cool-------	65	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
811B:					
Empeyville, warm----	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
811C:					
Empeyville, warm----	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
813B:					
Gretor--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
813C:					
Gretor--------------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
814:					
Gretor--------------	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Torull--------------	35	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Hydric soil	0.00	Hydric soil	0.00
816B:					
Herkimer, cool------	85	Improbable		Improbable	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
818B:					
Kalurah, warm-------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
818C:					
Kalurah, warm-------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
818D:					
Kalurah, warm-------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
818E:					
Kalurah, warm-------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
819A:					
Kendaia, cool-------	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
819B:					
Kendaia, cool-------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
823A:					
Malone, warm--------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
823B:					
Malone, warm--------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
823C:					
Malone, warm--------	70	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
825B:					
Pinckney, warm------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
825C:					
Pinckney, warm------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
825D:					
Pinckney, warm------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
831:					
Tughill, stony, warm	75	Improbable		Improbable	
		Hydric soil	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
833A:					
Westbury, warm------	90	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
833B:					
Westbury, warm------	90	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
838B:					
Worth, warm---------	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
838C:					
Worth, warm	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
838D:					
Worth, warm	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
838E:					
Worth, warm	85	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
842B:					
Farmington, cool	80	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
843D:					
Farmington, cool	45	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	35	Not rated		Not rated	
845A:					
Galway, cool	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
845B:					
Galway, cool	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
845C:					
Galway, cool	75	Improbable		Improbable	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
858A:					
Chenango, red substratum	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.77
858B:					
Chenango, red substratum	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.77
858C:					
Chenango, red substratum	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.77

Table 18.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class	Value	Rating class	Value
858D:					
Chenango, red substratum	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.77
858E:					
Chenango, red substratum	85	Probable		Probable	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.77
982:					
Wallkill	85	Improbable		Improbable	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Hydric soil	0.00
		Hydric soil	0.00	Bottom layer	0.99
W:					
Water	100	Not rated		Not rated	

Table 19.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Udifluvents, frequently flooded	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.57	Piping	1.00	Slow refill	0.43
				Depth to saturated zone	0.86	Cutbanks cave	0.10
						Depth to saturated zone	0.06
Fluvaquents, frequently flooded, warm---------------	35	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.49		
2:							
Hamlin--------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Piping	1.00	Depth to saturated zone	0.44
				Depth to saturated zone	0.18	Slow refill	0.30
						Cutbanks cave	0.10
4:							
Wakeville, occasionally flooded------------	70	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
7:							
Wayland-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.19	Depth to saturated zone	1.00	Slow refill	0.47
				Piping	1.00	Cutbanks cave	0.10
9:							
Wenonah-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
10:							
Otego---------------	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00	Slow refill	0.30
12B:							
Herkimer------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.98	Slow refill	0.30
		Slope	0.68			Cutbanks cave	0.10
						Depth to saturated zone	0.01

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:							
Herkimer	85	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.98	Slow refill	0.30
		Seepage	0.70			Cutbanks cave	0.10
						Depth to saturated zone	0.01
13:							
Fluvaquents, frequently flooded, cool	45	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.49		
Borosaprists	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Piping	1.00		
				Seepage	0.09		
20:							
Pits, sand and gravel	70	Not rated		Not rated		Not rated	
21:							
Udorthents, refuse substratum	85	Not rated		Not rated		Not rated	
22:							
Udorthents, smoothed	75	Not rated		Not rated		Not rated	
23:							
Urban land	75	Not rated		Not rated		Not rated	
24A:							
Howard	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
24B:							
Howard	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	0.68				
24C:							
Howard	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				
25:							
Pits, quarry	70	Not rated		Not rated		Not rated	

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27A:							
Nicholville----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	1.00		
27B:							
Nicholville----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to	1.00	Slow refill	0.30
		Slope	0.68	saturated zone		Cutbanks cave	0.10
				Piping	1.00		
28A:							
Phelps---------------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.10		
28B:							
Phelps---------------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to	1.00	Cutbanks cave	1.00
		Slope	0.08	saturated zone			
				Seepage	0.10		
30:							
Fredon, somewhat poorly drained-----	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.09		
Fredon, poorly drained------------	15	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.09		
31:							
Halsey---------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.06		
33A:							
Alton----------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
Urban land-----------	30	Not rated		Not rated		Not rated	
33B:							
Alton----------------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	0.68				
Urban land-----------	30	Not rated		Not rated		Not rated	

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34D:							
Howard	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				
Alton	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
34E:							
Howard	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				
Alton	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
35A:							
Unadilla	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
35B:							
Unadilla	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.68				
35C:							
Unadilla	80	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70				
36B:							
Salmon	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.68				
38A:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
38B:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	0.68				
38C:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				
38D:							
Chenango	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38E:							
Chenango------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				
39A:							
Knickerbocker-------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.14	Depth to water	1.00
39B:							
Knickerbocker-------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.14	Depth to water	1.00
		Slope	0.68				
39C:							
Knickerbocker-------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.14	Depth to water	1.00
		Slope	1.00				
41:							
Niagara-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.30	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	1.00		
42:							
Castile-------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
43:							
Jebavy--------------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
		Depth to cemented pan	1.00	Depth to saturated zone	1.00		
				Thin layer	1.00		
				Seepage	0.38		
46A:							
Colosse-------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.38	Depth to water	1.00
46B:							
Colosse-------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.38	Depth to water	1.00
		Slope	0.68				
46C:							
Colosse-------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.38	Depth to water	1.00
		Slope	1.00				
46D:							
Colosse-------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.38	Depth to water	1.00
		Slope	1.00				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A:							
Scio----------------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
47B:							
Scio----------------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
		Slope	0.08	Piping	1.00	Cutbanks cave	0.10
50:							
Wareham-------------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.09		
54D:							
Colton--------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.38	Depth to water	1.00
		Slope	1.00				
55A:							
Adams---------------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
55B:							
Adams---------------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	0.68				
55C:							
Adams---------------	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	1.00				
55D:							
Adams---------------	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	1.00				
55E:							
Adams---------------	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.75	Depth to water	1.00
		Slope	1.00				
56B:							
Becket, very bouldery-----------	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.74	Depth to water	1.00
		Slope	0.68	Depth to saturated zone	0.68		
				Seepage	0.07		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
56B:							
Skerry, very bouldery	35	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08	Thin layer	0.93		
				Seepage	0.05		
56C:							
Becket, very bouldery	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.70	Depth to saturated zone	0.68		
				Seepage	0.07		
Skerry, very bouldery	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.93		
				Seepage	0.05		
57A:							
Croghan	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.75		
57B:							
Croghan	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.68	Seepage	0.75		
60B:							
Adirondack, somewhat poorly drained, very bouldery	55	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.32	Thin layer	0.22		
				Seepage	0.07		
Adirondack, poorly drained, very bouldery	30	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.22		
				Seepage	0.07		
61A:							
Schoharie	85	Not limited		Somewhat limited		Very limited	
				Depth to saturated zone	0.95	Slow refill	1.00
						Cutbanks cave	0.10
				Piping	0.14	Depth to saturated zone	0.02

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
61B:							
Schoharie-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Depth to saturated zone	0.95	Slow refill	1.00
						Cutbanks cave	0.10
				Piping	0.14	Depth to saturated zone	0.02
61C:							
Schoharie-----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.95	Slow refill	1.00
						Cutbanks cave	0.10
				Piping	0.14	Depth to saturated zone	0.02
61E:							
Schoharie-----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.95	Slow refill	1.00
						Cutbanks cave	0.10
				Piping	0.14	Depth to saturated zone	0.02
62C:							
Becket, very bouldery-----------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.70	Depth to saturated zone	0.68		
				Seepage	0.07		
Tunbridge, very bouldery-----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.56	Depth to water	1.00
		Slope	1.00				
		Depth to bedrock	0.56				
62D:							
Becket, very bouldery-----------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.70	Depth to saturated zone	0.68		
				Seepage	0.07		
Tunbridge, very bouldery-----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.56	Depth to water	1.00
		Seepage	1.00				
		Depth to bedrock	0.56				
63A:							
Wallington----------	80	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	1.00		
				Piping	1.00		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
63B:							
Wallington----------	80	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.08	Thin layer	1.00		
				Piping	1.00		
64A:							
Rhinebeck-----------	80	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
64B:							
Rhinebeck-----------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
65F:							
Tunbridge, very bouldery-----------	40	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.56	Depth to water	1.00
		Seepage	1.00				
		Depth to bedrock	0.56				
Lyman---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.01		
68:							
Wakeville, rarely flooded-----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	1.00		
72:							
Canandaigua---------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.70
						Cutbanks cave	0.10
				Piping	1.00		
74B:							
Berkshire-----------	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	Depth to water	1.00
		Slope	0.68				
74C:							
Berkshire-----------	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.04	Depth to water	1.00
		Seepage	1.00				
75:							
Lamson--------------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.06		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76:							
Niagara	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.30	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	1.00		
77A:							
Collamer	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.11	Depth to saturated zone	1.00	Slow refill	0.89
						Cutbanks cave	0.50
				Piping	1.00		
77B:							
Collamer	80	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.68	Depth to saturated zone	1.00	Slow refill	0.89
		Seepage	0.11			Cutbanks cave	0.50
				Piping	1.00		
77C:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.89
		Seepage	0.11			Cutbanks cave	0.50
				Piping	1.00		
77D:							
Collamer	80	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	1.00	Slow refill	0.89
		Seepage	0.11			Cutbanks cave	0.50
				Piping	1.00		
78A:							
Arkport	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.20	Depth to water	1.00
78B:							
Arkport	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.20	Depth to water	1.00
		Slope	0.68				
78C:							
Arkport	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.20	Depth to water	1.00
		Slope	1.00				
79A:							
Roundabout	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Depth to saturated zone	1.00	Slow refill	0.47
						Cutbanks cave	0.10
				Piping	1.00		
79B:							
Roundabout	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.53	Depth to saturated zone	1.00	Slow refill	0.47
		Slope	0.08			Cutbanks cave	0.10
				Piping	1.00		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
81A:							
Covert--------------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
				Seepage	0.38	Depth to saturated zone	0.01
81B:							
Covert--------------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.38	Depth to saturated zone	0.01
90A:							
Windsor-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.40	Depth to water	1.00
90B:							
Windsor-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.40	Depth to water	1.00
		Slope	0.32				
90C:							
Windsor-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.40	Depth to water	1.00
		Slope	1.00				
90D:							
Windsor-------------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.40	Depth to water	1.00
		Slope	1.00				
90E:							
Windsor-------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.40	Depth to water	1.00
		Slope	1.00				
92:							
Napoleon------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Piping	1.00		
				Seepage	0.04		
94:							
Naumburg, somewhat poorly drained-----	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.09		
Naumburg, poorly drained------------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.09		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Carlisle	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Piping	1.00		
99:							
Greenwood	80	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
102B:							
Honeoye	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.68	Thin layer	0.96		
102C:							
Honeoye	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.96		
102D:							
Honeoye	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.96		
103B:							
Honeoye	40	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.32	Thin layer	0.96		
Urban land	30	Not rated		Not rated		Not rated	
104E:							
Honeoye	40	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.96		
Cazenovia	40	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	0.12		
109B:							
Cazenovia	75	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	0.12		
109C:							
Cazenovia	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	0.12		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109D:							
Cazenovia-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03	Piping	0.12	Slow refill	0.97
111B:							
Lansing------------	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.68	Thin layer	0.66		
111C:							
Lansing------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
111D:							
Lansing------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
111E:							
Lansing------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.66		
113A:							
Camroden-----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	1.00		
				Piping	0.70		
113B:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.68	Thin layer	1.00		
				Piping	0.70		
113C:							
Camroden-----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	1.00	Thin layer	1.00		
				Piping	0.70		
114B:							
Pinckney-----------	85	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.96	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.68	Thin layer	0.96		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114C:							
Pinckney	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.96	Piping	1.00		
		Seepage	0.70	Thin layer	0.96		
114D:							
Pinckney	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.96	Piping	1.00		
		Seepage	0.70	Thin layer	0.96		
115B:							
Chadakoin	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Piping	1.00	Depth to saturated zone	0.58
		Slope	0.68	Depth to saturated zone	0.07	Slow refill	0.47
						Cutbanks cave	0.10
115C:							
Chadakoin	80	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Piping	1.00	Depth to saturated zone	0.58
		Seepage	0.70	Depth to saturated zone	0.07	Slow refill	0.47
						Cutbanks cave	0.10
115D:							
Chadakoin	85	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Piping	1.00	Depth to saturated zone	0.58
		Seepage	0.70	Depth to saturated zone	0.07	Slow refill	0.47
						Cutbanks cave	0.10
115E:							
Chadakoin	85	Very limited		Very limited		Somewhat limited	
		Slope	1.00	Piping	1.00	Depth to saturated zone	0.58
		Seepage	0.70	Depth to saturated zone	0.07	Slow refill	0.47
						Cutbanks cave	0.10
117A:							
Pittsfield	75	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
117B:							
Pittsfield	75	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.68				
117C:							
Pittsfield	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117D:							
Pittsfield	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				
117E:							
Pittsfield	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				
119B:							
Pyrities	65	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.68				
119C:							
Pyrities	65	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
119D:							
Pyrities	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
119E:							
Pyrities	80	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
120C:							
Pyrities, rolling, very bouldery	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
121B:							
Worth	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Depth to saturated zone	0.96	Depth to water	1.00
		Seepage	0.70	Thin layer	0.93		
		Slope	0.68	Seepage	0.07		
121C:							
Worth	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		
121D:							
Worth	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121E:							
Worth---------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		
126A:							
Lima----------------	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.91		
				Piping	0.50		
126B:							
Lima----------------	80	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.68	Thin layer	0.91		
				Piping	0.50		
126C:							
Lima----------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.91		
				Piping	0.50		
133B:							
Empeyville----------	80	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Slope	0.68	Seepage	0.01		
133C:							
Empeyville----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.99	Thin layer	0.99		
		Seepage	0.70	Seepage	0.01		
136A:							
Kendaia-------------	65	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Piping	1.00		
136B:							
Kendaia-------------	65	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.68			Slow refill	0.30
				Piping	1.00		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
144A:							
Westbury-----------	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
				Thin layer	0.99		
144B:							
Westbury-----------	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.32	Thin layer	0.99		
146:							
Lyons---------------	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.53	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00	Slow refill	0.47
				Piping	1.00		
150:							
Tughill, stony------	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
151:							
Chippewa------------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Ponding	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
				Thin layer	1.00		
				Piping	1.00		
152B:							
Farmington----------	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	0.32	Piping	0.98		
153C:							
Farmington----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Piping	0.98		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
153D:							
Farmington----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Piping	0.98		
155:							
Dannemora, stony----	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	1.00		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156B:							
Lairdsville, well drained	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.95	Thin layer	0.99	Depth to water	1.00
		Slope	0.68	Piping	0.88		
156C:							
Lairdsville, well drained	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.95	Piping	0.88		
156E:							
Lairdsville, well drained	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.95	Piping	0.88		
162B:							
Ischua	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.52	Thin layer	0.52	Slow refill	1.00
		Slope	0.32	Seepage	0.12	Cutbanks cave	0.10
162C:							
Ischua	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.52	Slow refill	1.00
		Depth to bedrock	0.52	Seepage	0.12	Cutbanks cave	0.10
162D:							
Ischua	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Thin layer	0.52	Slow refill	1.00
		Depth to bedrock	0.52	Seepage	0.12	Cutbanks cave	0.10
168B:							
Manlius	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.91	Thin layer	0.91	Depth to water	1.00
		Seepage	0.70				
		Slope	0.68				
168C:							
Manlius	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.70				
168D:							
Manlius	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.70				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
168E:							
Manlius-------------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.91	Depth to water	1.00
		Depth to bedrock	0.91				
		Seepage	0.70				
173B:							
Mongaup-------------	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.95		
		Slope	0.68				
173C:							
Mongaup-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Depth to bedrock	0.95	Thin layer	0.95		
		Seepage	0.70				
173E:							
Mongaup-------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Depth to bedrock	0.95	Thin layer	0.95		
		Seepage	0.70				
176B:							
Nellis--------------	70	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
		Slope	0.68				
176C:							
Nellis--------------	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
176D:							
Nellis--------------	75	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	0.70				
195:							
Palms, drained------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.01	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	0.98		
200B:							
Bice----------------	70	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.68				
200C:							
Bice----------------	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
200D:							
Bice----------------	70	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				
200E:							
Bice----------------	80	Very limited		Not limited		Very limited	
		Slope	1.00			Depth to water	1.00
		Seepage	1.00				
212:							
Adrian--------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.09		
221B:							
Kalurah-------------	75	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	1.00		
221C:							
Kalurah-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	1.00		
221D:							
Kalurah-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	1.00		
221E:							
Kalurah-------------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	1.00		
223A:							
Malone--------------	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.19	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.96		
				Thin layer	0.56		
223B:							
Malone--------------	70	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.19				
				Piping	0.96		
				Thin layer	0.56		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223C:							
Malone	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.19	Piping	0.96		
				Thin layer	0.56		
256D:							
Becket, very bouldery	80	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Thin layer	0.74	Depth to water	1.00
		Seepage	0.70	Depth to saturated zone	0.68		
				Seepage	0.07		
260A:							
Ovid	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.03	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.97
				Piping	1.00		
260B:							
Ovid	75	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03			Slow refill	0.97
				Piping	1.00		
267B:							
Greene	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.52	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.32	Piping	0.94	Cutbanks cave	1.00
				Thin layer	0.52	Slow refill	1.00
267C:							
Greene	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.52	Piping	0.94	Cutbanks cave	1.00
				Thin layer	0.52	Slow refill	1.00
269:							
Greene	45	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.52	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Piping	0.94	Cutbanks cave	1.00
				Thin layer	0.52	Slow refill	1.00
Tuller	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Slow refill	0.98
				Piping	1.00	Cutbanks cave	0.10

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
295:							
Carlisle, drained---	85	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Piping	1.00		
350A:							
Alton---------------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
350B:							
Alton---------------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	0.68				
350C:							
Alton---------------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
355B:							
Arnot---------------	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	0.68				
372A:							
Appleton------------	65	Somewhat limited		Very limited		Very limited	
		Seepage	0.02	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.98
				Piping	1.00		
372B:							
Appleton------------	65	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.02			Slow refill	0.98
				Piping	1.00		
395:							
Palms---------------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.01	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	0.98		
397:							
Wonsqueak-----------	85	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
398:							
Dawson--------------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.68		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
413B:							
Venango	75	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.93	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.08	Thin layer	0.93		
413C:							
Venango	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.93	Piping	1.00		
		Seepage	0.70	Thin layer	0.93		
414B:							
Mardin	80	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.98	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.68	Thin layer	0.98		
414C:							
Mardin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.98	Piping	1.00		
		Seepage	0.70	Thin layer	0.98		
414D:							
Mardin	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.98	Piping	1.00		
		Seepage	0.70	Thin layer	0.98		
461:							
Marcy	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	1.00		
				Piping	1.00		
462:							
Runeberg	65	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Slow refill	0.89
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
515A:							
Galway, well drained	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.95		
515B:							
Galway, well drained	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.95		
		Slope	0.68				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C:							
Galway, well drained	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Depth to bedrock	0.95	Thin layer	0.95		
		Seepage	0.70				
565B:							
Aurora--------------	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.96	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Slope	0.68	Thin layer	0.99	Slow refill	1.00
				Piping	0.41	Cutbanks cave	0.10
565C:							
Aurora--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	0.99	Slow refill	1.00
				Piping	0.41	Cutbanks cave	0.10
565D:							
Aurora--------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	0.99	Slow refill	1.00
				Piping	0.41	Cutbanks cave	0.10
565E:							
Aurora--------------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.96	Thin layer	0.99	Slow refill	1.00
				Piping	0.41	Cutbanks cave	0.10
582A:							
Amenia--------------	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00	Slow refill	0.30
582B:							
Amenia--------------	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.68	Piping	1.00	Slow refill	0.30
747A:							
Manheim-------------	65	Somewhat limited		Very limited		Very limited	
		Seepage	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.99		
				Thin layer	0.42		
747B:							
Manheim-------------	65	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.02	Piping	0.99		
				Thin layer	0.42		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
747C:							
Manheim	65	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.02	Piping	0.99		
				Thin layer	0.42		
750B:							
Minoa	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.12		
790A:							
Conesus	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	1.00		
				Thin layer	0.37		
790B:							
Conesus	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.32	Piping	1.00		
				Thin layer	0.37		
790C:							
Conesus	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
				Thin layer	0.37		
801B:							
Alton, cool	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	0.68				
801C:							
Alton, cool	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
802D:							
Howard, cool	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				
Alton, cool	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
802E:							
Howard, cool	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	Depth to water	1.00
		Slope	1.00				

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802E:							
Alton, cool	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.08	Depth to water	1.00
		Slope	1.00				
804:							
Chippewa, stony	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Ponding	1.00	Depth to water	1.00
				Depth to saturated zone	1.00		
				Thin layer	1.00		
				Piping	1.00		
807A:							
Manheim, cool	65	Somewhat limited		Very limited		Very limited	
		Seepage	0.02	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.99		
				Thin layer	0.42		
807B:							
Manheim, cool	65	Somewhat limited		Very limited		Very limited	
		Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.02				
				Piping	0.99		
				Thin layer	0.42		
807C:							
Manheim, cool	65	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.02				
				Piping	0.99		
				Thin layer	0.42		
811B:							
Empeyville, warm	80	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.99		
		Slope	0.68	Seepage	0.01		
811C:							
Empeyville, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.99				
				Thin layer	0.99		
		Seepage	0.70	Seepage	0.01		
813B:							
Gretor	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70				
		Slope	0.08	Piping	0.89	Slow refill	0.30
				Thin layer	0.88	Cutbanks cave	0.10

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
813C:							
Gretor	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	0.88	Piping	0.89	Slow refill	0.30
		Seepage	0.70	Thin layer	0.88	Cutbanks cave	0.10
814:							
Gretor	45	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.88	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
		Seepage	0.70	Piping	0.89	Slow refill	0.30
				Thin layer	0.88	Cutbanks cave	0.10
Torull	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to saturated zone	1.00	Depth to hard bedrock	1.00
				Thin layer	1.00	Slow refill	0.89
				Piping	1.00	Cutbanks cave	0.10
816B:							
Herkimer, cool	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.98	Slow refill	0.30
		Slope	0.68			Cutbanks cave	0.10
						Depth to saturated zone	0.01
818B:							
Kalurah, warm	75	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03	Piping	1.00	Slow refill	0.97
818C:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03	Piping	1.00	Slow refill	0.97
818D:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03	Piping	1.00	Slow refill	0.97
818E:							
Kalurah, warm	75	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Seepage	0.03	Piping	1.00	Slow refill	0.97
819A:							
Kendaia, cool	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00	Slow refill	0.30

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
819B:							
Kendaia, cool	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.68	Piping	1.00	Slow refill	0.30
823A:							
Malone, warm	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.19	Depth to saturated zone	1.00	Depth to water	1.00
				Piping	0.96		
				Thin layer	0.56		
823B:							
Malone, warm	70	Somewhat limited		Very limited		Very limited	
		Slope	0.68	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.19	Piping	0.96		
				Thin layer	0.56		
823C:							
Malone, warm	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.19	Piping	0.96		
				Thin layer	0.56		
825B:							
Pinckney, warm	85	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.96	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.68	Thin layer	0.96		
825C:							
Pinckney, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.96	Piping	1.00		
		Seepage	0.70	Thin layer	0.96		
825D:							
Pinckney, warm	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to cemented pan	0.96	Piping	1.00		
		Seepage	0.70	Thin layer	0.96		
831:							
Tughill, stony, warm	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
833A:							
Westbury, warm------	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
				Thin layer	0.99		
833B:							
Westbury, warm------	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.99	Depth to saturated zone	1.00	Depth to water	1.00
		Seepage	0.70	Piping	1.00		
		Slope	0.32	Thin layer	0.99		
838B:							
Worth, warm---------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Depth to saturated zone	0.96	Depth to water	1.00
		Seepage	0.70	Thin layer	0.93		
		Slope	0.68	Seepage	0.07		
838C:							
Worth, warm---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		
838D:							
Worth, warm---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		
838E:							
Worth, warm---------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.96	Depth to water	1.00
		Depth to cemented pan	0.93	Thin layer	0.93		
		Seepage	0.70	Seepage	0.07		
842B:							
Farmington, cool----	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
		Slope	0.32	Piping	0.98		
843D:							
Farmington, cool----	45	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Piping	0.98		
Rock outcrop--------	35	Not rated		Not rated		Not rated	
845A:							
Galway, cool--------	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.95		

Table 19.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
845B:							
Galway, cool	75	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.95	Piping	1.00	Depth to water	1.00
		Seepage	0.70	Thin layer	0.95		
		Slope	0.68				
845C:							
Galway, cool	75	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Depth to bedrock	0.95	Thin layer	0.95		
		Seepage	0.70				
858A:							
Chenango, red substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
858B:							
Chenango, red substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	0.68				
858C:							
Chenango, red substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				
858D:							
Chenango, red substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				
858E:							
Chenango, red substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.68	Depth to water	1.00
		Slope	1.00				
982:							
Wallkill	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Piping	1.00		
				Seepage	0.68		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 20.--Engineering Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1:												
Udifluvents, frequently flooded--------	0-4	Silt loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	0	0-10	50-100	30-100	20-100	5-95	0-47	NP-18
	4-12	Gravelly loam, very gravelly sand, silty clay loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	0	0-10	50-100	30-100	20-100	5-95	0-43	NP-18
	12-37	Silt loam, very gravelly sandy loam, gravelly loam	GC, CL, GM, ML	A-4, A-2, A-1, A-6	0	0-25	35-100	15-100	5-100	0-90	0-39	NP-19
	37-72	Stratified very gravelly silt loam to loam to fine sandy loam, very gravelly sandy loam, loam	GC, CL, GM, ML	A-4, A-2-4, A-1, A-6	0	0-25	35-100	15-100	5-100	0-90	0-39	NP-19
Fluvaquents, frequently flooded, warm--	0-7	Silt loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	0	0-10	45-100	30-100	20-100	5-95	0-64	NP-20
	7-14	Silty clay loam, gravelly silt loam, very gravelly sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21
	14-45	Silt loam, gravelly silty clay loam, very gravelly sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21
	45-72	Silty clay loam, gravelly silt loam, very gravelly sandy loam, stratified extremely gravelly coarse sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
2:												
Hamlin----------	0-8	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	8-17	Silt loam, very fine sandy loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	17-31	Silt loam, very fine sandy loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	31-72	Silt loam, stratified very fine sandy loam, fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0-3	90-100	85-100	55-100	35-90	15-25	NP-10
4:												
Wakeville, occasionally flooded--------	0-10	Silt loam, very fine sandy loam	CL-ML, CL, ML	A-4, A-6	0	0	95-100	92-100	80-100	50-90	15-35	2-15
	10-15	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	15-35	Silt loam, very fine sandy loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	35-72	Silt loam, loamy sand, gravelly very fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6	0	0-5	55-100	40-100	20-100	10-90	0-33	NP-12
7:												
Wayland---------	0-9	Silt loam	ML, OL	A-5, A-7	0	0	100	92-100	80-100	65-95	40-50	5-15
	9-28	Silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6, A-7	0	0	100	92-100	80-100	65-95	25-45	5-15
	28-45	Silt loam, silty clay loam	GC, SC, Cl-ML, CL	A-2, A-4	0	0-5	70-100	60-100	45-100	25-95	16-25	5-10
	45-72	Silty clay loam, silt loam, stratified gravelly fine sandy loam to silt loam	GC, CL, SC, CL-ML	A-2, A-4	0	0-5	70-100	60-100	45-100	25-95	16-25	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
9:												
Wenonah---------	0-8	Loam	SM, ML	A-2-4, A-4	0	0	85-100	75-100	40-100	20-90	20-42	2-12
	8-17	Silt loam, very fine sandy loam, fine sandy loam	CL-ML, ML, SM	A-2, A-4	0	0	85-100	75-100	50-95	30-75	0-35	NP-12
	17-35	Loam, silt loam, fine sandy loam	SM, ML, CL-ML	A-2, A-4	0	0	85-100	75-100	50-95	30-75	0-35	NP-12
	35-45	Very fine sandy loam, gravelly loam, very gravelly fine sand	GM, SM, ML, GW-GM	A-1, A-2, A-4	0	0-10	50-100	35-100	15-95	5-75	0-31	NP-10
	45-55	Fine sand, gravelly loam, very gravelly fine sandy loam	ML, GW-GM, GM, SM	A-1, A-2, A-4	0	0-10	50-100	35-100	15-95	5-65	0-28	NP-10
	55-72	Fine sand, gravelly loamy sand, very gravelly fine sandy loam	GW-GM, ML, SM, GM	A-1, A-2, A-4	0	0-10	50-100	35-100	15-95	5-65	0-28	NP-10
10:												
Otego-----------	0-11	Loam, very fine sandy loam, silt loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-12
	11-20	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	20-31	Silt loam, very fine sandy loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	31-72	Gravelly loam, silt loam, very fine sandy loam	CL-ML, SC-SM, SM, ML	A-4	0	0-15	50-100	35-100	20-95	10-85	15-20	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
12B:												
Herkimer--------	0-8	Channery silt loam, gravelly silt loam, loam	GM, ML	A-6, A-7	0	0-10	65-98	50-96	45-90	30-80	27-44	6-12
	8-26	Channery silt loam, gravelly fine sandy loam, loam	GC-GM, GM, ML, SM	A-2, A-4	0	0-10	65-98	50-96	40-90	25-80	20-35	5-12
	26-35	Channery silt loam, gravelly fine sandy loam, loam	GC-GM, GM, ML, SM	A-2, A-4	0	0-15	45-85	30-70	25-70	15-65	20-35	5-12
	35-40	Channery silt loam, gravelly loam, very channery fine sandy loam	GM, GC-GM, SC, ML	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10
	40-72	Channery loam, gravelly silt loam, very channery fine sandy loam	GC, GC-GM, SC, SC-SM	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10
12C:												
Herkimer--------	0-8	Channery silt loam, gravelly silt loam, loam	GM, ML	A-6, A-7	0	0-10	65-98	50-96	45-90	30-80	27-44	6-12
	8-26	Channery silt loam, gravelly fine sandy loam, loam	SM, ML, GM, GC-GM	A-2, A-4	0	0-10	65-98	50-96	40-90	25-80	20-35	5-12
	26-35	Channery silt loam, gravelly fine sandy loam, loam	SM, GM, ML, GC-GM	A-2, A-4	0	0-15	45-85	30-70	25-70	15-65	20-35	5-12
	35-40	Channery silt loam, gravelly loam, very channery fine sandy loam	SC, ML, GM, GC-GM	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10
	40-72	Channery loam, gravelly silt loam, very channery fine sandy loam	GC-GM, GC, SC, SC-SM	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
13: Fluvaquents, frequently flooded, cool--	0-7	Silt loam	SC, CL, GM, ML, SM	A-4, A-2, A-1	0	0-10	45-100	30-100	20-100	5-95	0-64	NP-20
	7-14	Silty clay loam, gravelly silt loam, very gravelly sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21
	14-45	Silt loam, gravelly silty clay loam, very gravelly sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21
	45-72	Silty clay loam, gravelly silt loam, very gravelly sandy loam, stratified extremely gravelly coarse sandy loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0	0-15	35-100	15-100	10-100	5-95	0-41	NP-21
Borosaprists----	0-10	Muck	PT	A-8	0	0	100	100	100	100	---	---
	10-20	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	20-51	Muck, mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
	51-72	Gravelly loam, loamy sand, silty clay, very gravelly fine sandy loam	ML, SM	A-1, A-2, A-4	0-5	0-25	45-100	30-100	10-95	5-90	0-56	NP-36
20: Pits, sand and gravel---------	0-7	Very gravelly sandy loam, very gravelly loamy sand, gravelly fine sand, sand	GM, SM	A-1, A-2	0	0-25	50-100	30-100	15-80	10-35	10-15	NP-3
	7-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam, sand	GM, GW-GM, SW-SM, SW, SM, GW	A-1	0	0-25	45-100	30-100	15-75	0-20	0-0	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
21:												
Udorthents, refuse substratum-----	0-6	Gravelly loam	GC, CL, GM, SC-SM, SM	A-4, A-2, A-6	0	0-10	65-100	50-100	25-85	10-70	0-41	NP-13
	6-72	Stratified material	GM, SM, CL-ML	A-1, A-2, A-4	0	0-15	35-100	25-100	10-95	3-70	0-27	NP-8
22:												
Udorthents, smoothed-------	0-6	Gravelly loam	GC, CL, GM, SC-SM, SM	A-4, A-2, A-6	0	0-10	65-100	50-100	25-85	10-70	0-41	NP-13
	6-72	Gravelly sandy loam, very channery loam, silty clay loam	CL, GM, ML, SC-SM	A-4, A-2, A-1-b, A-6	0	0-15	40-100	25-100	10-100	0-95	0-52	NP-32
23:												
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---
24A:												
Howard----------	0-11	Gravelly loam, silt loam	GM, GC-GM, CL, ML	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	CL-ML, GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	GC, GC-GM, SC	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW, GW-GM	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW-GM, GW	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
24B:												
Howard----------	0-11	Gravelly loam, silt loam	GM, GC-GM, CL, ML	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC, CL-ML, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	SC, GC, GC-GM	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	SC, GC, GC-GM	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW, GW-GM	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW-GM, GW	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5
24C:												
Howard----------	0-11	Gravelly loam, silt loam	CL, GC-GM, GM, ML	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC-GM, SC, GC, CL-ML	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	GC, GC-GM, SC	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW-GM, GW	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW, GW-GM	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
25:												
Pits, quarry----	0-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
27A:												
Nicholville-----	0-4	Silt loam, very fine sandy loam	ML, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	45-90	20-40	2-12
	4-10	Silt loam, very fine sandy loam, loamy very fine sand	ML, CL-ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	10-20	Silt loam, very fine sandy loam, loamy very fine sand	ML, CL-ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	20-22	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	22-36	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	36-72	Very fine sandy loam, silt loam, very fine sand	SM, ML, CL-ML, SC-SM	A-2, A-4	0	0	90-100	85-100	50-100	25-90	15-25	NP-5
27B:												
Nicholville-----	0-4	Silt loam, very fine sandy loam	ML, CL-ML	A-4, A-6	0	0	90-100	85-100	75-100	45-90	20-40	2-12
	4-10	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	10-20	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	20-22	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	22-36	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	90-100	85-100	75-100	40-90	15-25	NP-5
	36-72	Very fine sandy loam, silt loam, very fine sand	SC-SM, ML, CL-ML, SM	A-2, A-4	0	0	90-100	85-100	50-100	25-90	15-25	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
28A:												
Phelps----------	0-7	Silt loam, loam, gravelly sandy loam	SC-SM, ML, CL-ML, SM	A-2, A-4	0	0-10	65-95	50-92	35-90	20-80	20-35	2-10
	7-10	Silt loam, loam, gravelly sandy loam	ML, SM, GM, CL-ML	A-2, A-4	0	0-10	65-95	50-92	35-90	20-80	20-35	2-10
	10-15	Gravelly silt loam, clay loam, gravelly loam	SM, ML, GM, CL-ML	A-2, A-4	0	0-15	65-95	50-92	40-90	30-80	20-35	2-10
	15-25	Gravelly silt loam, gravelly loam, clay loam	CL-ML, GM, ML, SC-SM	A-2, A-4	0	0-25	65-95	50-92	40-90	30-80	20-35	2-10
	25-34	Very gravelly loamy sand, stratified extremely gravelly sand	GW, GW-GM, GP, SW-SM	A-1	0	0-30	40-70	25-50	10-30	0-15	15-20	NP-2
	34-72	Very gravelly loamy sand, stratified extremely gravelly sand	GW, GW-GM, GP, SW-SM	A-1	0	0-30	40-70	20-50	10-30	0-15	15-20	NP-2
28B:												
Phelps----------	0-7	Silt loam, loam, gravelly sandy loam	SC-SM, ML, SM, CL-ML	A-2, A-4	0	0-10	65-95	50-92	35-90	20-80	20-35	2-10
	7-10	Silt loam, loam, gravelly sandy loam	ML, SM, CL-ML, GM	A-2, A-4	0	0-10	65-95	50-92	35-90	20-80	20-35	2-10
	10-15	Gravelly silt loam, clay loam, gravelly loam	CL-ML, GM, ML, SM	A-2, A-4	0	0-15	65-95	50-92	40-90	30-80	20-35	2-10
	15-25	Gravelly silt loam, gravelly loam, clay loam	SC-SM, ML, CL-ML, GM	A-2, A-4	0	0-25	65-95	50-92	40-90	30-80	20-35	2-10
	25-34	Very gravelly loamy sand, stratified extremely gravelly sand	GW, GW-GM, SW-SM, GP	A-1	0	0-30	40-70	25-50	10-30	0-15	15-20	NP-2
	34-72	Very gravelly loamy sand, stratified extremely gravelly sand	GP, GW, GW-GM, SW-SM	A-1	0	0-30	40-70	20-50	10-30	0-15	15-20	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
30:												
Fredon, somewhat poorly drained	0-7	Gravelly silt loam, loam, fine sandy loam	CL-ML, SC-SM, ML, GC-GM	A-2, A-4, A-6	0	0-5	65-98	50-96	35-90	20-80	20-48	2-13
	7-15	Gravelly silt loam, loam, fine sandy loam	GC-GM, CL-ML, SC-SM, ML	A-2, A-6, A-4	0	0-5	65-98	50-96	35-90	20-80	19-33	3-13
	15-24	Gravelly loam, very gravelly silt loam, fine sandy loam	GC-GM, CL-ML, SC-SM, ML	A-2, A-6, A-4	0	0-10	65-98	50-96	35-90	20-80	18-33	3-13
	24-72	Very gravelly loamy sand, stratified very gravelly sand to loamy fine sand	GP, SW-SM, GW-GM, GM	A-1, A-2, A-3	0	0-15	40-92	30-85	15-65	0-30	0-23	NP-6
Fredon, poorly drained--------	0-7	Gravelly silt loam, loam, fine sandy loam	CL-ML, GC-GM, ML, SC-SM	A-2, A-4, A-6	0	0-5	65-98	50-96	35-90	20-80	20-48	2-13
	7-15	Gravelly silt loam, loam, fine sandy loam	SC-SM, GC-GM, CL-ML, ML	A-2, A-6, A-4	0	0-5	65-98	50-96	35-90	20-80	19-33	3-13
	15-24	Gravelly loam, very gravelly silt loam, fine sandy loam	ML, GC-GM, CL-ML, SC-SM	A-2, A-6, A-4	0	0-10	65-98	50-96	35-90	20-80	18-33	3-13
	24-72	Very gravelly loamy sand, stratified very gravelly sand to loamy fine sand	SW-SM, GM, GP, GW-GM	A-1, A-2, A-3	0	0-15	40-92	30-85	15-65	0-30	0-23	NP-6
31:												
Halsey----------	0-7	Gravelly loam, silt loam, fine sandy loam	SC-SM, ML, GM, GC	A-2, A-4	0	0-2	65-100	50-100	35-95	20-80	20-30	3-10
	7-21	Gravelly loam, silt loam, gravelly fine sandy loam	SC-SM, ML, GC, CL	A-2, A-4	0	0-5	65-100	50-100	35-95	20-80	20-30	3-10
	21-45	Stratified very gravelly sand to loamy sand, gravelly loamy sand	GM, SM, SP, GP	A-1, A-2, A-3	0	0-15	45-92	30-85	15-65	0-30	0-22	NP-6
	45-72	Stratified very gravelly sandy loam to sand, very gravelly loamy sand	SP, SM, GP, GM	A-1, A-2, A-3	0	0-15	45-92	30-85	15-65	0-40	0-22	NP-6
33B:												
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
33A:												
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GM, ML, SM, GP-GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW, SM, GW-GM, SW-SM, SW, GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---
33B:												
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	SM, ML, GM, GP-GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW-SM, SW, SM, GW, GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
34D:												
Howard----------	0-11	Gravelly loam, silt loam	ML, GM, CL, GC-GM	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	CL-ML, SC, GC-GM, GC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	SC, GC-GM, GC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	GC, GC-GM, SC	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW, GW-GM	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW, GW-GM	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GP-GM, SM, ML, GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW-SM, GW, GM, SM, SW	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
34E:												
Howard----------	0-11	Gravelly loam, silt loam	CL, GC-GM, GM, ML	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	SC, GC, GC-GM, CL-ML	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	SC, GC-GM, GC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	GC, SC, GC-GM	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW-GM, GW	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW-GM, GW	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	SM, ML, GP-GM, GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	GM, SM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW, GW, GM, SW-SM, SM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
35A:												
Unadilla--------	0-7	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	95-100	92-100	80-100	50-90	15-35	NP-10
	7-12	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	12-21	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	21-72	Silt loam, very gravelly sand, very fine sandy loam	SP, GP, SM, ML	A-1, A-2, A-3, A-4	0	0-10	40-100	30-100	15-100	1-90	0-30	NP-10
35B:												
Unadilla--------	0-7	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-35	NP-10
	7-12	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	12-21	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	21-72	Silt loam, very gravelly sand, very fine sandy loam	ML, SP, SM, GP	A-1, A-2, A-3, A-4	0	0-10	40-100	30-100	15-100	1-90	0-30	NP-10
35C:												
Unadilla--------	0-7	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	95-100	92-100	80-100	50-90	15-35	NP-10
	7-12	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	12-21	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	95-100	92-100	80-100	50-90	15-25	NP-10
	21-72	Silt loam, very gravelly sand, very fine sandy loam	ML, SP, SM, GP	A-1, A-2, A-3, A-4	0	0-10	40-100	30-100	15-100	1-90	0-30	NP-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
36B:												
Salmon----------	0-7	Silt loam, very fine sandy loam	CL-ML, ML	A-4, A-6	0	0	95-100	85-100	70-100	45-90	20-40	2-12
	7-12	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	95-100	85-100	70-100	45-90	15-25	NP-5
	12-27	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	95-100	85-100	70-100	45-90	15-25	NP-5
	27-45	Very fine sandy loam, silt loam	SM, ML, CL-ML	A-4	0	0	95-100	85-100	65-100	45-90	15-25	NP-5
	45-72	Stratified sandy loam, silt loam, loamy very fine sand, very fine sandy loam	CL-ML, SM, SC-SM, ML	A-2, A-4, A-1-b	0	0	92-100	85-100	45-100	25-90	0-29	NP-12
38A:												
Chenango--------	0-7	Gravelly silt loam, very gravelly sandy loam, loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-13	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	13-27	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	27-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GM, GP, GW, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
38B:												
Chenango--------	0-7	Gravelly silt loam, very gravelly sandy loam, loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-13	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	13-27	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	27-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GP, GM, GW, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP
38C:												
Chenango--------	0-7	Gravelly silt loam, very gravelly sandy loam, loam	GM, SM, ML	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-13	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	13-27	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	27-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GM, SM, GP, GW	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
38D:												
Chenango--------	0-7	Gravelly silt loam, very gravelly sandy loam, loam	ML, GM, SM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-13	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	13-27	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	27-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GW, SM, GP, GM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP
38E:												
Chenango--------	0-7	Gravelly silt loam, very gravelly sandy loam, loam	SM, ML, GM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-13	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	13-27	Gravelly very fine sandy loam, gravelly silt loam, very gravelly sandy loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	27-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GM, GP, GW, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
39A:												
Knickerbocker---	0-9	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	9-16	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	16-30	Loamy fine sand, loamy sand	SM	A-1-b, A-2-4	0	0	90-100	85-100	40-80	15-35	10-25	NP-5
	30-72	Fine sand, gravelly loamy fine sand, gravelly sand	SP-SM, SM	A-1, A-2-4, A-3	0	0-5	70-100	55-100	30-80	0-30	0-20	NP-3
39B:												
Knickerbocker---	0-9	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	9-16	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	16-30	Loamy fine sand, loamy sand	SM	A-1-b, A-2-4	0	0	90-100	85-100	40-80	15-35	10-25	NP-5
	30-72	Fine sand, gravelly loamy fine sand, gravelly sand	SM, SP-SM	A-1, A-2-4, A-3	0	0-5	70-100	55-100	30-80	0-30	0-20	NP-3
39C:												
Knickerbocker---	0-9	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	9-16	Fine sandy loam, sandy loam	ML, SM	A-1-b, A-2, A-4	0	0	90-100	85-100	45-85	25-55	15-27	NP-7
	16-30	Loamy fine sand, loamy sand	SM	A-1-b, A-2-4	0	0	90-100	85-100	40-80	15-35	10-25	NP-5
	30-72	Fine sand, gravelly loamy fine sand, gravelly sand	SP-SM, SM	A-1, A-2-4, A-3	0	0-5	70-100	55-100	30-80	0-30	0-20	NP-3

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
41:												
Niagara---------	0-6	Fine sandy loam, very fine sandy loam, silt loam	SM, ML	A-4	0	0	95-100	92-100	70-100	40-90	20-48	2-13
	6-11	Fine sandy loam, very fine sandy loam, silt loam	ML, SM	A-4	0	0	95-100	92-100	70-100	40-90	20-48	2-13
	11-13	Fine sandy loam, silt loam, very fine sandy loam	CL-ML, CL	A-4, A-6	0	0	95-100	92-100	65-100	35-90	20-35	6-17
	13-21	Silt loam, silty clay loam, very fine sandy loam	CL-ML, CL	A-6, A-4	0	0	95-100	92-100	75-100	50-95	27-43	6-25
	21-26	Very fine sandy loam, silt loam, silty clay loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25
	26-32	Very fine sandy loam, silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25
	32-72	Stratified silt loam to very fine sandy loam, very fine sandy loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25
42:												
Castile---------	0-8	Gravelly loam, gravelly silt loam, gravelly sandy loam	SM, SC-SM, GM, ML	A-2, A-4	0	0-5	70-90	55-75	35-70	20-65	15-30	NP-10
	8-19	Gravelly loam, very gravelly sandy loam, gravelly silt loam	SC-SM, GC-GM, SM, GM	A-1, A-2, A-3, A-4	0	0-10	45-85	30-70	15-65	10-60	15-30	NP-10
	19-28	Gravelly loam, very gravelly sandy loam, gravelly silt loam	SM, GM, GC-GM, SC-SM	A-1, A-2, A-3, A-4	0	0-10	45-85	30-70	15-65	10-60	15-30	NP-10
	28-72	Very gravelly loam, stratified very gravelly sand, very gravelly loamy sand	SW-SM, GP, GW, GW-GM	A-1, A-2, A-4	0	0-15	35-70	20-50	10-45	0-40	0-22	NP-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
43:												
Jebavy----------	0-2	Highly decomposed plant material	PT	A-8	0	0	95-100	92-100	45-80	5-30	---	---
	2-10	Sand, fine sand	SP-SM, SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-25	NP-6
	10-12	Sand, fine sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-22	NP-6
	12-14	Sand, fine sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-22	NP-6
	14-24	Sand, fine sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-22	NP-6
	24-32	Fine sand, sand	SM, SP-SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-22	NP-6
	32-72	Fine sand, sand	SP-SM, SM	A-1-b, A-2-4, A-3	0	0	95-100	92-100	45-80	5-30	0-22	NP-6
46A:												
Colosse---------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-15	100	100	70-100	50-100	---	---
	1-2	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-40	NP-6
	2-6	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-35	NP-6
	6-15	Very cobbly sandy loam, very gravelly sandy loam, gravelly fine sandy loam	SM, GM	A-1, A-2, A-4	0-1	0-25	45-90	30-75	15-60	10-40	0-22	NP-6
	15-29	Very cobbly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0-3	0-25	45-90	30-75	15-60	5-40	0-18	NP-3
	29-39	Very cobbly loamy sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	35-75	20-55	10-35	0-15	0-16	NP-1
	39-82	Extremely gravelly sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	30-75	20-55	10-35	0-15	0-16	NP-1

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
46B:												
Colosse---------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-15	100	100	70-100	50-100	---	---
	1-2	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	SM, GM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-40	NP-6
	2-6	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	SM, GM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-35	NP-6
	6-15	Very cobbly sandy loam, very gravelly sandy loam, gravelly fine sandy loam	SM, GM	A-1, A-2, A-4	0-1	0-25	45-90	30-75	15-60	10-40	0-22	NP-6
	15-29	Very cobbly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0-3	0-25	45-90	30-75	15-60	5-40	0-18	NP-3
	29-39	Very cobbly loamy sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	35-75	20-55	10-35	0-15	0-16	NP-1
	39-82	Extremely gravelly sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	30-75	20-55	10-35	0-15	0-16	NP-1

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
46C:												
Colosse---------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-15	100	100	70-100	50-100	---	---
	1-2	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-40	NP-6
	2-6	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-35	NP-6
	6-15	Very cobbly sandy loam, very gravelly sandy loam, gravelly fine sandy loam	GM, SM	A-1, A-2, A-4	0-1	0-25	45-90	30-75	15-60	10-40	0-22	NP-6
	15-29	Very cobbly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0-3	0-25	45-90	30-75	15-60	5-40	0-18	NP-3
	29-39	Very cobbly loamy sand, stratified very gravelly sand, extremely gravelly coarse sand	GW, GP-GM, GP	A-1	0-3	0-35	35-75	20-55	10-35	0-15	0-16	NP-1
	39-82	Extremely gravelly sand, stratified very gravelly sand, extremely gravelly coarse sand	GW, GP-GM, GP	A-1	0-3	0-35	30-75	20-55	10-35	0-15	0-16	NP-1

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
46D:												
Colosse---------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-15	100	100	70-100	50-100	---	---
	1-2	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	SM, GM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-40	NP-6
	2-6	Gravelly loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM	A-2, A-4	0-1	0-15	45-90	30-75	15-65	10-50	0-35	NP-6
	6-15	Very cobbly sandy loam, very gravelly sandy loam, gravelly fine sandy loam	GM, SM	A-1, A-2, A-4	0-1	0-25	45-90	30-75	15-60	10-40	0-22	NP-6
	15-29	Very cobbly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0-3	0-25	45-90	30-75	15-60	5-40	0-18	NP-3
	29-39	Very cobbly loamy sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	35-75	20-55	10-35	0-15	0-16	NP-1
	39-82	Extremely gravelly sand, stratified very gravelly sand, extremely gravelly coarse sand	GP, GP-GM, GW	A-1	0-3	0-35	30-75	20-55	10-35	0-15	0-16	NP-1
47A:												
Scio------------	0-8	Silt loam, very fine sandy loam, fine sandy loam	ML	A-4	0	0	95-100	92-100	70-100	40-90	15-20	NP-4
	8-12	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	12-20	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	20-32	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	32-72	Silt loam, stratified very gravelly sand, fine sandy loam	GP-GM, ML, SM, SP	A-1, A-2, A-3, A-4	0	0-10	40-100	25-100	15-100	2-90	10-15	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
47B:												
Scio------------	0-8	Silt loam, very fine sandy loam, fine sandy loam	ML	A-4	0	0	95-100	92-100	70-100	40-90	15-20	NP-4
	8-12	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	12-20	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	20-32	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-20	NP-4
	32-72	Silt loam, stratified very gravelly sand, fine sandy loam	GP-GM, ML, SM, SP	A-1, A-2, A-3, A-4	0	0-10	40-100	25-100	15-100	2-90	10-15	NP-4
50:												
Wareham---------	0-2	Moderately decomposed plant material	PT	A-8	0	0	85-100	75-100	35-80	5-35	---	NP
	2-9	Loamy fine sand, loamy sand, sand	SM, SP-SM	A-1, A-2	0	0	85-100	75-100	35-85	5-35	0-27	NP
	9-13	Loamy fine sand, loamy coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-85	5-35	0-20	NP
	13-28	Loamy fine sand, loamy coarse sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	85-100	75-100	35-85	5-35	0-18	NP
	28-72	Loamy sand, coarse sand, very gravelly sand	SP, GM, GP, SM	A-1, A-2, A-3	0	0-5	45-100	25-100	10-75	0-30	0-14	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
54D:												
Colton----------	0-4	Gravelly sandy loam, sand, very gravelly fine sandy loam	GW-GM, GM, SW-SM, SM	A-1, A-2, A-4	0	0-5	50-92	30-85	20-60	5-40	0-37	NP-4
	4-7	Gravelly loamy sand, very gravelly sand, cobbly coarse sand, gravelly loamy fine sand	GM, GP, SM, SP	A-1	0-1	0-10	50-90	30-75	20-55	2-25	0-31	NP-2
	7-16	Gravelly loamy sand, very gravelly sand, cobbly coarse sand, gravelly loamy fine sand	GM, GP, SM, SP	A-1	0-2	0-15	50-90	30-75	20-55	2-25	0-27	NP-2
	16-24	Very gravelly loamy sand, very gravelly sand, cobbly coarse sand, gravelly loamy fine sand	GP, SP, SM, GM	A-1	0-2	0-20	50-90	30-75	20-50	0-20	0-20	NP-2
	24-72	Very gravelly sand, stratified very cobbly sand, stratified extremely gravelly coarse sand, stratified very gravelly loamy sand	SP, GP, SW, GW	A-1	0-5	0-30	35-75	20-50	10-30	0-15	0-16	NP-1
55A:												
Adams-----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	90-100	80-100	---	---
	1-4	Loamy sand, loamy fine sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-29	NP
	4-12	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	12-17	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	17-25	Sand, fine sand, coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	80-100	70-100	35-80	5-35	0-22	NP
	25-72	Sand, fine sand, coarse sand, gravelly sand	SP, SP-SM, SW-SM	A-1, A-2, A-3	0	0-1	80-100	70-100	35-80	1-30	0-19	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
55B:												
Adams-----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	90-100	80-100	---	---
	1-4	Loamy sand, loamy fine sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-29	NP
	4-12	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	12-17	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	17-25	Sand, fine sand, coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	80-100	70-100	35-80	5-35	0-22	NP
	25-72	Sand, fine sand, coarse sand, gravelly sand	SP, SP-SM, SW-SM	A-1, A-2, A-3	0	0-1	80-100	70-100	35-80	1-30	0-19	NP
55C:												
Adams-----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	90-100	80-100	---	---
	1-4	Loamy sand, loamy fine sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-29	NP
	4-12	Loamy sand, sand, loamy fine sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	12-17	Loamy sand, sand, loamy fine sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	17-25	Sand, fine sand, coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	80-100	70-100	35-80	5-35	0-22	NP
	25-72	Sand, fine sand, coarse sand, gravelly sand	SW-SM, SP-SM, SP	A-1, A-2, A-3	0	0-1	80-100	70-100	35-80	1-30	0-19	NP
55D:												
Adams-----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	90-100	80-100	---	---
	1-4	Loamy sand, loamy fine sand, sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-29	NP
	4-12	Loamy sand, sand, loamy fine sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	12-17	Loamy sand, sand, loamy fine sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	17-25	Sand, fine sand, coarse sand	SP-SM, SM	A-1, A-2, A-3	0	0	80-100	70-100	35-80	5-35	0-22	NP
	25-72	Sand, fine sand, coarse sand, gravelly sand	SW-SM, SP-SM, SP	A-1, A-2, A-3	0	0-1	80-100	70-100	35-80	1-30	0-19	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
55E:												
Adams-----------	0-1	Highly decomposed plant material	PT	A-8	0	0	100	100	90-100	80-100	---	---
	1-4	Loamy sand, loamy fine sand, sand	SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-29	NP
	4-12	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	12-17	Loamy sand, sand, loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	0-24	NP
	17-25	Sand, fine sand, coarse sand	SP-SM, SM	A-1, A-2, A-3	0	0	80-100	70-100	35-80	5-35	0-22	NP
	25-72	Sand, fine sand, coarse sand, gravelly sand	SW-SM, SP-SM, SP	A-1, A-2, A-3	0	0-1	80-100	70-100	35-80	1-30	0-19	NP
56B:												
Becket, very bouldery-------	0-1	Highly decomposed plant material	OL, PT	A-8, A-4	0-5	0-15	70-95	60-92	40-85	20-60	0-30	NP-10
	1-3	Fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2, A-4	1-5	0-15	70-95	60-92	35-85	15-60	15-25	NP-10
	3-16	Fine sandy loam, sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	16-24	Fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SC-SM, SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	24-34	Gravelly fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SM, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	30-75	10-50	15-25	NP-10
	34-41	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP
	41-72	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
56B:												
Skerry, very bouldery-------	0-2	Highly decomposed plant material	PT	A-8	0-5	0-15	70-100	60-100	40-100	20-100	---	---
	2-6	Fine sandy loam, sandy loam	SC-SM, SM	A-4, A-2	1-5	0-15	70-95	55-92	30-75	20-50	15-30	NP-10
	6-9	Fine sandy loam, gravelly sandy loam	SC-SM, SM	A-4, A-2	0-5	0-15	70-95	55-92	30-75	20-50	15-30	NP-10
	9-13	Fine sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0-5	0-15	70-95	55-92	30-75	20-50	15-25	NP-10
	13-27	Sandy loam, gravelly fine sandy loam, fine sandy loam	SC-SM, SM	A-2, A-4	0-5	0-15	70-95	55-92	30-75	20-50	15-25	NP-10
	27-72	Stratified gravelly sandy loam to loamy sand, gravelly loamy sand, fine sandy loam	GP-GM, SM, SP-SM, GM	A-1-b, A-2	0-5	0-20	65-95	45-92	20-70	5-35	0-18	NP-2
56C:												
Becket, very bouldery-------	0-1	Highly decomposed plant material	PT, OL	A-4, A-8	0-5	0-15	70-95	60-92	40-85	20-60	0-30	NP-10
	1-3	Fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2, A-4	1-5	0-15	70-95	60-92	35-85	15-60	15-25	NP-10
	3-16	Fine sandy loam, sandy loam, gravelly sandy loam	SM, SC, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	16-24	Fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC-SM, SC, SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	24-34	Gravelly fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SC-SM, SM	A-2, A-4	0-5	0-15	70-95	60-92	30-75	10-50	15-25	NP-10
	34-41	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	SP-SM, SM, GP-GM, GM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP
	41-72	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, SM, GP-GM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
56C:												
Skerry, very bouldery-------	0-2	Highly decomposed plant material	PT	A-8	0-5	0-15	70-100	60-100	40-100	20-100	---	---
	2-6	Fine sandy loam, sandy loam	SC-SM, SM	A-2, A-4	1-5	0-15	70-95	55-92	30-75	20-50	15-30	NP-10
	6-9	Fine sandy loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0-5	0-15	70-95	55-92	30-75	20-50	15-30	NP-10
	9-13	Fine sandy loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0-5	0-15	70-95	55-92	30-75	20-50	15-25	NP-10
	13-27	Sandy loam, gravelly fine sandy loam, fine sandy loam	SM, SC-SM	A-2, A-4	0-5	0-15	70-95	55-92	30-75	20-50	15-25	NP-10
	27-72	Stratified gravelly sandy loam to loamy sand, gravelly loamy sand, fine sandy loam	SP-SM, SM, GM, GP-GM	A-1-b, A-2	0-5	0-20	65-95	45-92	20-70	5-35	0-18	NP-2
57A:												
Croghan---------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	70-100	50-100	---	---
	1-6	Loamy fine sand, sand, fine sandy loam	SW-SM, SP-SM, SM	A-2-4, A-3, A-4	0	0	95-100	92-100	45-80	5-40	0-40	NP-2
	6-10	Fine sand, sand, loamy sand, fine sandy loam	SM, SW-SM, SP-SM	A-2-4, A-3, A-4	0	0	95-100	92-100	45-80	5-40	0-29	NP-2
	10-11	Sand, fine sand, loamy sand, loamy fine sand	SM, SP-SM, SW-SM	A-2-4, A-3, A-4	0	0	85-100	75-100	35-75	5-40	0-36	NP-2
	11-19	Fine sand, sand, loamy sand, loamy fine sand	SW-SM, SP-SM, SM	A-2-4, A-3, A-4	0	0	85-100	75-100	35-75	5-40	0-18	NP-2
	19-24	Fine sand, sand, loamy sand, fine sandy loam	SM, SP-SM, SW-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-40	0-18	NP-2
	24-34	Fine sand, sand, loamy sand, loamy fine sand	SM, SP-SM, SW-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-35	0-18	NP-2
	34-49	Stratified sand, loamy sand, coarse sand, fine sand	SW-SM, SP-SM, SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-30	0-18	NP-2
	49-72	Fine sand, loamy sand, coarse sand, sand	SM, SP-SM, SW-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-30	0-18	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
57B:												
Croghan---------	0-1	Moderately decomposed plant material	PT	A-8	0	0	100	100	70-100	50-100	---	---
	1-6	Loamy fine sand, sand, fine sandy loam	SM, SP-SM, SW-SM	A-2-4, A-3, A-4	0	0	95-100	92-100	45-80	5-40	0-40	NP-2
	6-10	Fine sand, sand, loamy sand, fine sandy loam	SP-SM, SM, SW-SM	A-2-4, A-3, A-4	0	0	95-100	92-100	45-80	5-40	0-29	NP-2
	10-11	Sand, fine sand, loamy sand, loamy fine sand	SM, SW-SM, SP-SM	A-2-4, A-3, A-4	0	0	85-100	75-100	35-75	5-40	0-36	NP-2
	11-19	Fine sand, sand, loamy sand, loamy fine sand	SM, SP-SM, SW-SM	A-2-4, A-3, A-4	0	0	85-100	75-100	35-75	5-40	0-18	NP-2
	19-24	Fine sand, sand, loamy sand, fine sandy loam	SM, SP-SM, SW-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-40	0-18	NP-2
	24-34	Fine sand, sand, loamy sand, loamy fine sand	SM, SW-SM, SP-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-35	0-18	NP-2
	34-49	Stratified sand, loamy sand, coarse sand, fine sand	SW-SM, SM, SP-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-30	0-18	NP-2
	49-72	Fine sand, loamy sand, coarse sand, sand	SM, SP-SM, SW-SM	A-1, A-2-4, A-3	0	0	85-100	75-100	35-75	5-30	0-18	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
60B:												
Adirondack, somewhat poorly drained, very bouldery-------	0-2	Highly decomposed plant material	PT	A-8	1-5	0-10	65-100	50-100	50-100	50-100	15-30	NP-10
	2-4	Fine sandy loam, silt loam, gravelly loamy fine sand, sandy loam	SM, ML	A-4	1-5	0-10	65-95	50-92	30-85	15-80	15-25	NP-3
	4-13	Fine sandy loam, silt loam, gravelly sandy loam, gravelly loam	ML, SM	A-4	0-5	0-15	65-95	50-92	30-85	15-80	15-25	NP-3
	13-24	Sandy loam, loam, gravelly fine sandy loam, silt loam	ML, SM	A-4	0-5	0-15	65-95	50-92	30-85	15-80	15-25	NP-3
	24-37	Coarse sandy loam, gravelly sandy loam, gravelly loamy fine sand, silt loam	SM, GM	A-2-4, A-4	0-5	0-20	65-95	50-92	30-80	15-70	15-25	NP-3
	37-46	Cobbly sandy loam, gravelly fine sandy loam, gravelly loamy fine sand, loamy sand, loam	SM, GM	A-2-4, A-4	0-5	0-25	65-95	50-92	25-80	15-70	15-25	NP-3
	46-72	Cobbly coarse sandy loam, fine sandy loam, gravelly loamy fine sand, loamy sand, loam	GM, SM	A-2-4, A-4	0-5	0-25	65-95	50-92	25-80	15-70	15-25	NP-3

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
60B:												
Adirondack, poorly drained, very bouldery--	0-2	Highly decomposed plant material	PT	A-8	1-5	0-10	65-100	50-100	50-100	50-100	15-30	NP-10
	2-4	Fine sandy loam, silt loam, gravelly loamy fine sand, sandy loam	ML, SM	A-4	1-5	0-10	65-95	50-92	30-85	15-80	15-25	NP-3
	4-13	Fine sandy loam, silt loam, gravelly sandy loam, gravelly loam	ML, SM	A-4	0-5	0-15	65-95	50-92	30-85	15-80	15-25	NP-3
	13-24	Sandy loam, loam, gravelly fine sandy loam, silt loam	ML, SM	A-4	0-5	0-15	65-95	50-92	30-85	15-80	15-25	NP-3
	24-37	Coarse sandy loam, gravelly sandy loam, gravelly loamy fine sand, silt loam	SM, GM	A-2-4, A-4	0-5	0-20	65-95	50-92	30-80	15-70	15-25	NP-3
	37-46	Cobbly sandy loam, gravelly fine sandy loam, gravelly loamy fine sand, loamy sand, loam	GM, SM	A-2-4, A-4	0-5	0-25	65-95	50-92	25-80	15-70	15-25	NP-3
	46-72	Cobbly coarse sandy loam, fine sandy loam, gravelly loamy fine sand, loamy sand, loam	GM, SM	A-2-4, A-4	0-5	0-25	65-95	50-92	25-80	15-70	15-25	NP-3
61A:												
Schoharie-------	0-10	Silt loam, silty clay loam, loam	ML, CL	A-6, A-7	0	0	100	95-100	80-100	60-95	35-50	10-25
	10-14	Silty clay loam, clay, silty clay	CL, CH	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	14-39	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	39-55	Silty clay, clay, silty clay loam	CL, CH	A-6	0	0	100	95-100	80-100	70-95	25-50	10-25
	55-72	Silty clay, clay	CL, CL-ML, CH	A-4, A-6	0	0	100	95-100	80-100	70-95	20-50	6-25

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
61B:												
Schoharie-------	0-10	Silt loam, silty clay loam, loam	ML, CL	A-6, A-7	0	0	100	95-100	80-100	60-95	35-50	10-25
	10-14	Silty clay loam, clay, silty clay	CL, CH	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	14-39	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	39-55	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-50	10-25
	55-72	Silty clay, clay	CH, CL, CL-ML	A-4, A-6	0	0	100	95-100	80-100	70-95	20-50	6-25
61C:												
Schoharie-------	0-10	Silt loam, silty clay loam, loam	CL, ML	A-6, A-7	0	0	100	95-100	80-100	60-95	35-50	10-25
	10-14	Silty clay loam, clay, silty clay	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	14-39	Silty clay, clay, silty clay loam	CL, CH	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	39-55	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-50	10-25
	55-72	Silty clay, clay	CH, CL, CL-ML	A-4, A-6	0	0	100	95-100	80-100	70-95	20-50	6-25
61E:												
Schoharie-------	0-10	Silt loam, silty clay loam, loam	ML, CL	A-6, A-7	0	0	100	95-100	80-100	60-95	35-50	10-25
	10-14	Silty clay loam, clay, silty clay	CL, CH	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	14-39	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-55	10-25
	39-55	Silty clay, clay, silty clay loam	CH, CL	A-6	0	0	100	95-100	80-100	70-95	25-50	10-25
	55-72	Silty clay, clay	CL-ML, CL, CH	A-4, A-6	0	0	100	95-100	80-100	70-95	20-50	6-25

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
62C:												
Becket, very bouldery-------	0-1	Highly decomposed plant material	OL, PT	A-4, A-8	0-5	0-15	70-95	60-92	40-85	20-60	0-30	NP-10
	1-3	Fine sandy loam, loam, gravelly sandy loam	SM, SC-SM, SC	A-2, A-4	1-5	0-15	70-95	60-92	35-85	15-60	15-25	NP-10
	3-16	Fine sandy loam, sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	16-24	Fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SM, SC, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	24-34	Gravelly fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SC-SM, SM	A-2, A-4	0-5	0-15	70-95	60-92	30-75	10-50	15-25	NP-10
	34-41	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP
	41-72	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GP-GM, SM, SP-SM, GM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
62C:												
Tunbridge, very bouldery-------	0-3	Highly decomposed plant material	PT	A-8	0-5	0-15	100	100	60-100	30-100	---	---
	3-8	Fine sandy loam, gravelly sandy loam, channery silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	8-9	Fine sandy loam, gravelly sandy loam, loamy fine sand, channery silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	9-12	Fine sandy loam, cobbly loam, channery sandy loam, silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	12-14	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	GM, SM, ML	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	14-18	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	ML, SM, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	18-30	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	SM, ML, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	30-38	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	GM, ML, SM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	0-23	NP-6
	38-52	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
62D:												
Becket, very bouldery-------	0-1	Highly decomposed plant material	PT, OL	A-4, A-8	0-5	0-15	70-95	60-92	40-85	20-60	0-30	NP-10
	1-3	Fine sandy loam, loam, gravelly sandy loam	SM, SC-SM, SC	A-2, A-4	1-5	0-15	70-95	60-92	35-85	15-60	15-25	NP-10
	3-16	Fine sandy loam, sandy loam, gravelly sandy loam	SM, SC-SM, SC	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	16-24	Fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SM, SC-SM, SC	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	24-34	Gravelly fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SM, SC-SM, SC	A-2, A-4	0-5	0-15	70-95	60-92	30-75	10-50	15-25	NP-10
	34-41	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	SP-SM, GP-GM, GM, SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP
	41-72	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	SP-SM, SM, GP-GM, GM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
62D:												
Tunbridge, very bouldery-------	0-3	Highly decomposed plant material	PT	A-8	0-5	0-15	100	100	60-100	30-100	---	---
	3-8	Fine sandy loam, gravelly sandy loam, channery silt loam	SM, GM, ML	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	8-9	Fine sandy loam, gravelly sandy loam, loamy fine sand, channery silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	9-12	Fine sandy loam, cobbly loam, channery sandy loam, silt loam	GM, SM, ML	A-2, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	12-14	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	ML, SM, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	14-18	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	SM, GM, ML	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	18-30	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	SM, ML, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	30-38	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	GM, ML, SM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	0-23	NP-6
	38-52	Bedrock	---	---	---	---	---	---	---	---	---	---
63A:												
Wallington------	0-9	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	9-12	Very fine sandy loam, silt loam	ML, CL-ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	12-15	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	15-24	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	75-100	45-90	15-20	3-6
	24-35	Silt loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	75-100	45-90	15-20	3-6
	35-80	Silt loam, loamy very fine sand, very fine sandy loam	ML, SM	A-4	0	0	95-100	92-100	75-95	35-90	15-20	NP-3

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
63B:												
Wallington------	0-9	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	9-12	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	12-15	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	95-100	80-100	50-90	15-20	3-6
	15-24	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	75-100	45-90	15-20	3-6
	24-35	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	95-100	75-100	45-90	15-20	3-6
	35-80	Silt loam, loamy very fine sand, very fine sandy loam	ML, SM	A-4	0	0	95-100	92-100	75-95	35-90	15-20	NP-3
64A:												
Rhinebeck-------	0-9	Silt loam, gravelly silty clay loam, loam	CL, MH, ML, CH	A-6, A-7-6	0	0	80-100	65-100	60-100	50-95	30-55	10-25
	9-17	Silty clay loam, silty clay	CL, CH	A-7-6, A-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	17-28	Silty clay loam, silty clay	CL, CH	A-7-6, A-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	28-35	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	35-72	Silty clay loam, stratified fine sand to silt loam, clay, silty clay	CL, CL-ML, ML	A-4, A-6	0	0	92-100	85-100	65-100	30-95	0-66	NP-43
64B:												
Rhinebeck-------	0-9	Silt loam, gravelly silty clay loam, loam	CH, CL, MH, ML	A-6, A-7-6	0	0	80-100	65-100	60-100	50-95	30-55	10-25
	9-17	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	17-28	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	28-35	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	92-100	85-100	80-100	70-95	30-55	15-30
	35-72	Silty clay loam, stratified fine sand to silt loam, clay, silty clay	CL, CL-ML, ML	A-6, A-4	0	0	92-100	85-100	65-100	30-95	0-66	NP-43

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
65F:												
Tunbridge, very bouldery-------	0-3	Highly decomposed plant material	PT	A-8	0-5	0-15	100	100	60-100	30-100	---	---
	3-8	Fine sandy loam, gravelly sandy loam, channery silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	8-9	Fine sandy loam, gravelly sandy loam, loamy fine sand, channery silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	65-96	50-95	30-90	15-70	15-20	NP-2
	9-12	Fine sandy loam, cobbly loam, channery sandy loam, silt loam	ML, SM, GM	A-2, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	12-14	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	SM, GM, ML	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	14-18	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	ML, SM, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	18-30	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	ML, GM, SM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	15-50	NP-6
	30-38	Gravelly fine sandy loam, gravelly loam, channery sandy loam, silt loam	SM, ML, GM	A-2-4, A-4	0-5	0-15	65-96	50-92	30-90	15-70	0-23	NP-6
	38-52	Bedrock	---	---	---	---	---	---	---	---	---	---
Lyman-----------	0-5	Channery loam, gravelly sandy loam, silt loam	GM, ML, SM	A-2, A-4	0-5	0-15	70-95	65-92	35-80	15-75	15-30	NP-6
	5-15	Channery sandy loam, silt loam, cobbly fine sandy loam	GM, ML, SM	A-1-b, A-2, A-4	0-5	0-15	70-95	65-92	35-80	15-75	15-30	NP-4
	15-25	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
68:												
Wakeville, rarely flooded	0-10	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	80-100	50-90	15-35	2-15
	10-15	Silt loam, very fine sandy loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	15-35	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-90	15-35	2-15
	35-72	Silt loam, loamy sand, gravelly very fine sandy loam	SM, CL-ML, SC-SM, ML	A-2, A-4, A-6	0	0-5	55-100	40-100	20-100	10-90	0-33	NP-12
72:												
Canandaigua-----	0-8	Silt loam, very fine sandy loam, loam	CL, CL-ML	A-4, A-6	0	0	95-100	85-100	65-100	45-90	20-40	5-15
	8-16	Very fine sandy loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	85-100	65-100	50-95	20-40	5-15
	16-21	Silt loam, very fine sandy loam, silty clay loam	CL-ML, CL	A-6, A-4	0	0	95-100	85-100	65-100	50-95	20-40	5-15
	21-34	Silty clay loam, very fine sandy loam, silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	85-100	65-100	50-95	20-40	5-15
	34-40	Silty clay loam, very fine sandy loam, stratified fine sand to silty clay, silt loam	ML, CL, CL-ML	A-4	0	0	95-100	85-100	60-100	25-95	20-30	3-10
	40-72	Silt loam, very fine sandy loam, stratified fine sand to silty clay	CL, CL-ML, ML	A-4	0	0	70-100	55-100	40-100	15-95	20-30	3-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
74B:												
Berkshire-------	0-1	Moderately decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-6	Fine sandy loam, gravelly sandy loam, bouldery loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	30-85	15-70	15-30	NP-10
	6-8	Sandy loam, bouldery fine sandy loam, cobbly loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	30-85	15-70	15-30	NP-10
	8-9	Sandy loam, cobbly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-70	15-30	NP-10
	9-14	Sandy loam, gravelly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-65	15-30	NP-10
	14-21	Sandy loam, gravelly fine sandy loam, gravelly loam	SM, ML	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-65	15-30	NP-10
	21-72	Gravelly sandy loam, fine sandy loam, gravelly loam	SM, ML	A-2, A-4	0-5	0-20	65-95	50-92	30-80	15-60	15-20	NP-6
74C:												
Berkshire-------	0-1	Moderately decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-6	Fine sandy loam, gravelly sandy loam, bouldery loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	30-85	15-70	15-30	NP-10
	6-8	Sandy loam, bouldery fine sandy loam, cobbly loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	30-85	15-70	15-30	NP-10
	8-9	Sandy loam, cobbly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-70	15-30	NP-10
	9-14	Sandy loam, gravelly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-65	15-30	NP-10
	14-21	Sandy loam, gravelly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-3	0-15	65-95	50-92	30-85	15-65	15-30	NP-10
	21-72	Gravelly sandy loam, fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0-5	0-20	65-95	50-92	30-80	15-60	15-20	NP-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
75:												
Lamson----------	0-9	Fine sandy loam, loamy fine sand, silt loam	SM, ML	A-4	0	0	95-100	92-100	60-95	30-85	15-20	NP-4
	9-13	Loamy fine sand, fine sandy loam, very fine sandy loam	SM, ML	A-4	0	0	95-100	92-100	60-95	25-65	15-20	NP-4
	13-18	Fine sandy loam, very fine sandy loam	SM, ML	A-4	0	0	92-100	75-100	50-95	30-65	15-20	NP-4
	18-22	Fine sandy loam, very fine sandy loam	SM, ML	A-4	0	0	92-100	75-100	50-95	30-65	15-20	NP-4
	22-36	Loamy fine sand, very fine sandy loam, fine sandy loam	ML, SM	A-4, A-2-4	0	0	92-100	75-100	50-95	30-65	15-20	NP-4
	36-72	Loamy fine sand, very fine sand, silty clay loam, fine sand	ML, SM	A-2-4, A-4	0	0	92-100	75-100	50-95	30-90	0-20	NP-4
76:												
Niagara---------	0-6	Silt loam, very fine sandy loam, fine sandy loam	ML, SM	A-4	0	0	95-100	92-100	70-100	40-90	20-43	2-13
	6-11	Silt loam, very fine sandy loam, fine sandy loam	ML, SM	A-4	0	0	95-100	92-100	70-100	40-90	20-43	2-13
	11-13	Fine sandy loam, silt loam, very fine sandy loam	CL-ML, CL	A-4, A-6	0	0	95-100	92-100	65-100	35-90	20-35	6-17
	13-21	Silt loam, silty clay loam, very fine sandy loam	CL-ML, CL	A-6, A-4	0	0	95-100	92-100	75-100	50-95	27-43	6-25
	21-26	Very fine sandy loam, silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25
	26-32	Very fine sandy loam, silt loam, silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25
	32-72	Stratified silt loam to very fine sandy loam, very fine sandy loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	92-100	75-100	45-95	16-43	2-25

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
77A:												
Collamer--------	0-10	Silt loam, fine sandy loam, very fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0	95-100	92-100	65-100	40-90	25-35	5-10
	10-15	Silt loam, silty clay loam, fine sandy loam	CL, SC-SM, CL-ML, ML	A-4	0	0	95-100	92-100	65-100	40-95	20-30	3-10
	15-21	Silt loam, silty clay loam, very fine sandy loam	ML, CL, SC-SM, CL-ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	21-29	Silty clay loam, silt loam, very fine sandy loam	CL, CL-ML, ML, SC-SM	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	29-43	Silty clay loam, very fine sandy loam, fine sandy loam, silt loam	CL-ML, CL, ML, SC-SM	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	43-72	Silt loam, gravelly very fine sand, silty clay loam, stratified silt to very fine sand	SM, ML, CL-ML, CL	A-4, A-6	0	0	65-100	50-100	40-100	25-95	20-35	3-15
77B:												
Collamer--------	0-10	Silt loam, fine sandy loam, very fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	95-100	92-100	65-100	40-90	25-35	5-10
	10-15	Silt loam, silty clay loam, fine sandy loam	ML, CL, CL-ML, SC-SM	A-4	0	0	95-100	92-100	65-100	40-95	20-30	3-10
	15-21	Silt loam, silty clay loam, very fine sandy loam	SC-SM, CL-ML, CL, ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	21-29	Silty clay loam, silt loam, very fine sandy loam	SC-SM, CL, CL-ML, ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	29-43	Silty clay loam, very fine sandy loam, fine sandy loam, silt loam	ML, CL-ML, CL, SC-SM	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	43-72	Silt loam, gravelly very fine sand, silty clay loam, stratified silt to very fine sand	SM, ML, CL-ML, CL	A-4, A-6	0	0	65-100	50-100	40-100	25-95	20-35	3-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
77C:												
Collamer--------	0-10	Silt loam, fine sandy loam, very fine sandy loam	SM, CL-ML, ML, SC-SM	A-4	0	0	95-100	92-100	65-100	40-90	25-35	5-10
	10-15	Silt loam, silty clay loam, fine sandy loam	SC-SM, CL, CL-ML, ML	A-4	0	0	95-100	92-100	65-100	40-95	20-30	3-10
	15-21	Silt loam, silty clay loam, very fine sandy loam	CL, CL-ML, ML, SC-SM	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	21-29	Silty clay loam, silt loam, very fine sandy loam	CL, CL-ML, SC-SM, ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	29-43	Silty clay loam, very fine sandy loam, fine sandy loam, silt loam	CL, SC-SM, CL-ML, ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	43-72	Silt loam, gravelly very fine sand, silty clay loam, stratified silt to very fine sand	CL-ML, ML, SM, CL	A-4, A-6	0	0	65-100	50-100	40-100	25-95	20-35	3-15
77D:												
Collamer--------	0-10	Silt loam, fine sandy loam, very fine sandy loam	SC-SM, SM, ML, CL-ML	A-4	0	0	95-100	92-100	65-100	40-90	25-35	5-10
	10-15	Silt loam, silty clay loam, fine sandy loam	CL, CL-ML, SC-SM, ML	A-4	0	0	95-100	92-100	65-100	40-95	20-30	3-10
	15-21	Silt loam, silty clay loam, very fine sandy loam	CL, ML, SC-SM, CL-ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	21-29	Silty clay loam, silt loam, very fine sandy loam	ML, CL-ML, CL, SC-SM	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	29-43	Silty clay loam, very fine sandy loam, fine sandy loam, silt loam	ML, SC-SM, CL, CL-ML	A-4	0	0	95-100	92-100	70-100	40-95	20-30	3-10
	43-72	Silt loam, gravelly very fine sand, silty clay loam, stratified silt to very fine sand	CL, CL-ML, ML, SM	A-4, A-6	0	0	65-100	50-100	40-100	25-95	20-35	3-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
78A:												
Arkport---------	0-7	Fine sandy loam, fine sand, silt loam, loamy very fine sand	ML, SM	A-4	0	0	95-100	85-100	65-95	25-80	15-15	NP-4
	7-11	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	11-20	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	20-30	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	30-42	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	20-70	---	NP
	42-72	Fine sand, loamy fine sand, loamy very fine sand, sand	SM	A-2, A-4	0	0	95-100	85-100	45-95	5-50	---	NP
78B:												
Arkport---------	0-7	Fine sandy loam, fine sand, silt loam, loamy very fine sand	ML, SM	A-4	0	0	95-100	85-100	65-95	25-80	15-15	NP-4
	7-11	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	11-20	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	20-30	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	30-42	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	20-70	---	NP
	42-72	Fine sand, loamy fine sand, loamy very fine sand, sand	SM	A-2, A-4	0	0	95-100	85-100	45-95	5-50	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
78C:												
Arkport---------	0-7	Fine sandy loam, fine sand, silt loam, loamy very fine sand	SM, ML	A-4	0	0	95-100	85-100	65-95	25-80	15-15	NP-4
	7-11	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	11-20	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	20-30	Loamy fine sand, loamy very fine sand, silt loam, fine sand	SM, ML	A-2, A-4	0	0	95-100	85-100	60-95	25-70	15-15	NP-4
	30-42	Loamy fine sand, loamy very fine sand, silt loam, fine sand	ML, SM	A-2, A-4	0	0	95-100	85-100	60-95	20-70	---	NP
	42-72	Fine sand, loamy fine sand, loamy very fine sand, sand	SM	A-2, A-4	0	0	95-100	85-100	45-95	5-50	---	NP
79A:												
Roundabout------	0-10	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	10-14	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	14-20	Very fine sandy loam, silt loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	20-35	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	35-72	Silt loam, very fine sandy loam, sand	ML	A-4	0	0	85-100	70-100	40-100	10-90	15-35	NP-4
79B:												
Roundabout------	0-10	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	10-14	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	14-20	Very fine sandy loam, silt loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	20-35	Silt loam, very fine sandy loam	ML	A-4	0	0	95-100	92-100	75-100	45-90	15-30	NP-4
	35-72	Silt loam, very fine sandy loam, sand	ML	A-4	0	0	85-100	70-100	40-100	10-90	15-35	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
81A:												
Covert----------	0-7	Loamy sand, sand	SP-SM, SM	A-2-4	0	0	95-100	92-100	50-70	10-30	0-31	NP-6
	7-13	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	13-21	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	21-36	Sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	36-72	Fine sand, sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	92-100	45-75	5-30	0-18	NP-3
81B:												
Covert----------	0-7	Loamy sand, sand	SP-SM, SM	A-2-4	0	0	95-100	92-100	50-70	10-30	0-31	NP-6
	7-13	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	13-21	Sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	21-36	Sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	92-100	45-70	5-15	0-18	NP-3
	36-72	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	92-100	45-75	5-30	0-18	NP-3
90A:												
Windsor---------	0-2	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	2-7	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	7-15	Loamy sand, loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-18	NP-2
	15-21	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	21-29	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	29-54	Sand, fine sand, loamy sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
	54-72	Sand, fine sand, loamy sand	SP-SM, SP, SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
90B:												
Windsor---------	0-2	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	2-7	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	7-15	Loamy sand, loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-18	NP-2
	15-21	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	21-29	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	29-54	Sand, fine sand, loamy sand	SM, SP-SM, SP	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
	54-72	Sand, fine sand, loamy sand	SP-SM, SP, SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
90C:												
Windsor---------	0-2	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	2-7	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	7-15	Loamy sand, loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-18	NP-2
	15-21	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	21-29	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	29-54	Sand, fine sand, loamy sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
	54-72	Sand, fine sand, loamy sand	SP, SM, SP-SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
90D:												
Windsor---------	0-2	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	2-7	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	7-15	Loamy sand, loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-18	NP-2
	15-21	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	21-29	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	29-54	Sand, fine sand, loamy sand	SP-SM, SP, SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
	54-72	Sand, fine sand, loamy sand	SP-SM, SP, SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
90E:												
Windsor---------	0-2	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	2-7	Loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	20-35	0-20	NP-3
	7-15	Loamy sand, loamy fine sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-18	NP-2
	15-21	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	21-29	Fine sand, loamy sand, sand	SM	A-1, A-2	0	0	95-100	85-100	45-80	15-35	0-16	NP-1
	29-54	Sand, fine sand, loamy sand	SP-SM, SM, SP	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP
	54-72	Sand, fine sand, loamy sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	92-100	75-100	40-80	2-30	0-14	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
92:												
Napoleon--------	0-10	Peat	PT	A-8	0	0	100	100	100	100	---	---
	10-20	Mucky peat, muck	PT	A-8	0	0	100	100	100	100	---	---
	20-40	Mucky peat, muck	PT	A-8	0	0	100	100	100	100	---	---
	40-60	Mucky peat, muck	PT	A-8	0	0	100	100	100	80-100	---	---
	60-72	Loamy fine sand, silt loam, silty clay loam	SM, ML, CL	A-2-4, A-4, A-6	0	0	92-100	85-100	55-100	20-90	0-78	NP-27
94:												
Naumburg, somewhat poorly drained--------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	100	100	---	---
	4-12	Loamy sand, sandy loam, fine sandy loam	SM	A-2, A-4	0	0	95-100	92-100	50-85	15-45	---	NP
	12-15	Sand, loamy sand, loamy fine sand	SW-SM, SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	15-20	Sand, loamy sand, loamy fine sand	SW-SM, SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	20-25	Sand, coarse sand, loamy fine sand	SP-SM, SM, SW-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	25-72	Loamy fine sand, sand, coarse sand	SW-SM, SP-SM, SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
Naumburg, poorly drained--------	0-4	Highly decomposed plant material	PT	A-8	0	0	100	100	100	100	---	---
	4-12	Loamy sand, sandy loam, fine sandy loam	SM	A-2, A-4	0	0	95-100	92-100	50-85	15-45	---	NP
	12-15	Sand, loamy sand, loamy fine sand	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	15-20	Sand, loamy sand, loamy fine sand	SM, SW-SM, SP-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	20-25	Sand, coarse sand, loamy fine sand	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP
	25-72	Loamy fine sand, sand, coarse sand	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0	95-100	92-100	45-80	5-35	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
95:												
Carlisle--------	0-10	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	10-18	Muck	PT	A-8	0	0	100	100	100	100	---	---
	18-51	Muck	PT	A-8	0	0	100	100	100	100	---	---
	51-54	Muck, mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
	54-72	Silty clay loam, gravelly loam, fine sandy loam	CL, SM, ML	A-2, A-6, A-4	0-3	0-10	75-100	60-100	35-100	15-95	15-52	1-32
99:												
Greenwood-------	0-5	Peat	PT	A-8	0	0	100	100	100	100	---	---
	5-12	Peat	PT	A-8	0	0	100	100	100	100	---	---
	12-32	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	32-72	Mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
102B:												
Honeoye---------	0-7	Silt loam, fine sandy loam, channery loam	ML, SM, CL, CL-ML	A-4, A-2	0	0-8	65-95	50-92	35-85	20-80	25-35	5-10
	7-17	Silt loam, gravelly loam, channery clay loam	GC, CL, SC, ML	A-4	0-1	0-10	65-95	50-92	40-85	30-80	25-35	5-10
	17-25	Gravelly silt loam, channery loam, clay loam	ML, GC, SC, CL	A-4	0-3	0-12	65-95	50-92	40-85	30-80	25-35	5-10
	25-72	Very gravelly silt loam, channery loam, very gravelly fine sandy loam	CL, GC, CL-ML, SC	A-2-4, A-4	0-5	0-12	40-90	25-75	15-70	10-60	15-25	5-10
102C:												
Honeoye---------	0-7	Silt loam, fine sandy loam, channery loam	SM, ML, CL-ML, CL	A-2, A-4	0	0-8	65-95	50-92	35-85	20-80	25-35	5-10
	7-17	Silt loam, gravelly loam, channery clay loam	GC, ML, SC, CL	A-4	0-1	0-10	65-95	50-92	40-85	30-80	25-35	5-10
	17-25	Gravelly silt loam, channery loam, clay loam	GC, CL, ML, SC	A-4	0-3	0-12	65-95	50-92	40-85	30-80	25-35	5-10
	25-72	Very gravelly silt loam, channery loam, very gravelly fine sandy loam	CL-ML, GC, SC, CL	A-2-4, A-4	0-5	0-12	40-90	25-75	15-70	10-60	15-25	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
102D:												
Honeoye---------	0-7	Silt loam, fine sandy loam, channery loam	CL, CL-ML, SM, ML	A-2, A-4	0	0-8	65-95	50-92	35-85	20-80	25-35	5-10
	7-17	Silt loam, gravelly loam, channery clay loam	SC, GC, CL, ML	A-4	0-1	0-10	65-95	50-92	40-85	30-80	25-35	5-10
	17-25	Gravelly silt loam, channery loam, clay loam	CL, GC, ML, SC	A-4	0-3	0-12	65-95	50-92	40-85	30-80	25-35	5-10
	25-72	Very gravelly silt loam, channery loam, very gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2-4, A-4	0-5	0-12	40-90	25-75	15-70	10-60	15-25	5-10
103B:												
Honeoye---------	0-7	Silt loam, fine sandy loam, channery loam	CL, CL-ML, ML, SM	A-2, A-4	0	0-8	65-95	50-92	35-85	20-80	25-35	5-10
	7-17	Silt loam, gravelly loam, channery clay loam	ML, GC, SC, CL	A-4	0-1	0-10	65-95	50-92	40-85	30-80	25-35	5-10
	17-25	Gravelly silt loam, channery loam, clay loam	CL, GC, ML, SC	A-4	0-3	0-12	65-95	50-92	40-85	30-80	25-35	5-10
	25-72	Very gravelly silt loam, channery loam, very gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2-4, A-4	0-5	0-12	40-90	25-75	15-70	10-60	15-25	5-10
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---
104E:												
Honeoye---------	0-7	Silt loam, fine sandy loam, channery loam	CL, CL-ML, ML, SM	A-2, A-4	0	0-8	65-95	50-92	35-85	20-80	25-35	5-10
	7-17	Silt loam, gravelly loam, channery clay loam	GC, CL, ML, SC	A-4	0-1	0-10	65-95	50-92	40-85	30-80	25-35	5-10
	17-25	Gravelly silt loam, channery loam, clay loam	CL, GC, ML, SC	A-4	0-3	0-12	65-95	50-92	40-85	30-80	25-35	5-10
	25-72	Very gravelly silt loam, channery loam, very gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2-4, A-4	0-5	0-12	40-90	25-75	15-70	10-60	15-25	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
104E:												
Cazenovia-------	0-7	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	31-53	9-18
	7-10	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	27-45	9-18
	10-16	Silt loam, silty clay loam, gravelly clay loam, loam	CL	A-4, A-6	0-1	0-5	75-98	65-96	50-90	30-85	25-45	9-25
	16-22	Gravelly silty clay loam, clay loam, gravelly clay loam	CL	A-4, A-6	0-3	0-5	75-98	65-96	55-90	40-85	25-45	9-25
	22-72	Gravelly silty clay loam, very gravelly loam, clay loam	CL, SC, GC-GM	A-2, A-4, A-6	0-3	0-10	65-92	45-85	35-80	25-75	20-43	9-25
109B:												
Cazenovia-------	0-7	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	31-53	9-18
	7-10	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	27-45	9-18
	10-16	Silt loam, silty clay loam, gravelly clay loam, loam	CL	A-4, A-6	0-1	0-5	75-98	65-96	50-90	30-85	25-45	9-25
	16-22	Gravelly silty clay loam, clay loam, gravelly clay loam	CL	A-4, A-6	0-3	0-5	75-98	65-96	55-90	40-85	25-45	9-25
	22-72	Gravelly silty clay loam, very gravelly loam, clay loam	CL, SC, GC-GM	A-2, A-4, A-6	0-3	0-10	65-92	45-85	35-80	25-75	20-43	9-25
109C:												
Cazenovia-------	0-7	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	31-53	9-18
	7-10	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	27-45	9-18
	10-16	Silt loam, silty clay loam, gravelly clay loam, loam	CL	A-4, A-6	0-1	0-5	75-98	65-96	50-90	30-85	25-45	9-25
	16-22	Gravelly silty clay loam, clay loam, gravelly clay loam	CL	A-4, A-6	0-3	0-5	75-98	65-96	55-90	40-85	25-45	9-25
	22-72	Gravelly silty clay loam, very gravelly loam, clay loam	CL, GC-GM, SC	A-2, A-4, A-6	0-3	0-10	65-92	45-85	35-80	25-75	20-43	9-25

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
109D:												
Cazenovia-------	0-7	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	31-53	9-18
	7-10	Silt loam, fine sandy loam, gravelly loam	ML	A-4, A-7	0	0-5	75-98	65-96	40-90	25-80	27-45	9-18
	10-16	Silt loam, silty clay loam, gravelly clay loam, loam	CL	A-4, A-6	0-1	0-5	75-98	65-96	50-90	30-85	25-45	9-25
	16-22	Gravelly silty clay loam, clay loam, gravelly clay loam	CL	A-4, A-6	0-3	0-5	75-98	65-96	55-90	40-85	25-45	9-25
	22-72	Gravelly silty clay loam, very gravelly loam, clay loam	CL, GC-GM, SC	A-2, A-4, A-6	0-3	0-10	65-92	45-85	35-80	25-75	20-43	9-25
111B:												
Lansing---------	0-9	Silt loam, gravelly very fine sandy loam, very channery loam	SM, ML	A-4	0-1	0-10	60-99	40-96	35-90	20-80	25-45	1-15
	9-13	Silt loam, channery loam, very gravelly very fine sandy loam	CL-ML, GM, ML, SM	A-4, A-2	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	13-17	Silt loam, loam, very gravelly very fine sandy loam	GM, ML, CL-ML	A-4, A-2	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	17-22	Gravelly silt loam, very channery loam, silty clay loam	CL-ML, GM, ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	22-36	Silt loam, very channery loam, gravelly silty clay loam	GM, ML, CL-ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	36-72	Gravelly silt loam, channery loam, very gravelly loam	CL-ML, GC, GM, ML	A-2, A-4	0-5	0-25	50-85	35-70	25-70	20-65	15-25	2-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
111C:												
Lansing---------	0-9	Silt loam, gravelly very fine sandy loam, very channery loam	ML, SM	A-4	0-1	0-10	60-99	40-96	35-90	20-80	25-45	1-15
	9-13	Silt loam, channery loam, very gravelly very fine sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	13-17	Silt loam, loam, very gravelly very fine sandy loam	CL-ML, ML, GM	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	17-22	Gravelly silt loam, very channery loam, silty clay loam	ML, GM, CL-ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	22-36	Silt loam, very channery loam, gravelly silty clay loam	CL-ML, GM, ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	36-72	Gravelly silt loam, channery loam, very gravelly loam	CL-ML, GC, GM, ML	A-2, A-4	0-5	0-25	50-85	35-70	25-70	20-65	15-25	2-10
111D:												
Lansing---------	0-9	Silt loam, gravelly very fine sandy loam, very channery loam	ML, SM	A-4	0-1	0-10	60-99	40-96	35-90	20-80	25-45	1-15
	9-13	Silt loam, channery loam, very gravelly very fine sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	13-17	Silt loam, loam, very gravelly very fine sandy loam	GM, ML, CL-ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	17-22	Gravelly silt loam, very channery loam, silty clay loam	ML, GM, CL-ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	22-36	Silt loam, very channery loam, gravelly silty clay loam	GM, ML, CL-ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	36-72	Gravelly silt loam, channery loam, very gravelly loam	ML, GM, CL-ML, GC	A-2, A-4	0-5	0-25	50-85	35-70	25-70	20-65	15-25	2-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
111E:												
Lansing---------	0-9	Silt loam, gravelly very fine sandy loam, very channery loam	ML, SM	A-4	0-1	0-10	60-99	40-96	35-90	20-80	25-45	1-15
	9-13	Silt loam, channery loam, very gravelly very fine sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	13-17	Silt loam, loam, very gravelly very fine sandy loam	CL-ML, GM, ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	20-80	20-35	1-10
	17-22	Gravelly silt loam, very channery loam, silty clay loam	GM, CL-ML, ML	A-4, A-2	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	22-36	Silt loam, very channery loam, gravelly silty clay loam	CL-ML, GM, ML	A-2, A-4	0-3	0-15	60-99	40-96	35-90	25-85	20-35	1-10
	36-72	Gravelly silt loam, channery loam, very gravelly loam	CL-ML, GC, GM, ML	A-2, A-4	0-5	0-25	50-85	35-70	25-70	20-65	15-25	2-10
113A:												
Camroden--------	0-5	Silt loam, channery loam	ML, MH	A-4, A-5, A-7	0	0-5	70-96	65-95	50-90	35-80	35-58	9-18
	5-16	Silt loam, channery loam, silty clay loam	CL, CL-ML, GM, ML	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	16-19	Channery silt loam, loam, silty clay loam	CL-ML, ML, GM, CL	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	19-42	Channery silt loam, channery loam, silty clay loam	GM, ML, CL-ML, CL	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-38	2-19
	42-72	Channery silt loam, channery loam, silty clay loam	CL-ML, ML, GM, CL	A-4	0-5	0-10	65-95	50-92	40-90	30-75	15-37	2-19
113B:												
Camroden--------	0-5	Silt loam, channery loam	MH, ML	A-4, A-5, A-7	0	0-5	70-96	65-95	50-90	35-80	35-58	9-18
	5-16	Silt loam, channery loam, silty clay loam	GM, ML, CL, CL-ML	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	16-19	Channery silt loam, loam, silty clay loam	GM, CL, ML, CL-ML	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	19-42	Channery silt loam, channery loam, silty clay loam	GM, ML, CL-ML, CL	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-38	2-19
	42-72	Channery silt loam, channery loam, silty clay loam	CL, ML, GM, CL-ML	A-4	0-5	0-10	65-95	50-92	40-90	30-75	15-37	2-19

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
113C:												
Camroden--------	0-5	Silt loam, channery loam	MH, ML	A-4, A-5, A-7	0	0-5	70-96	65-95	50-90	35-80	35-58	9-18
	5-16	Silt loam, channery loam, silty clay loam	CL-ML, GM, ML, CL	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	16-19	Channery silt loam, loam, silty clay loam	GM, ML, CL-ML, CL	A-4	0-1	0-10	70-96	65-95	50-90	35-85	15-41	2-21
	19-42	Channery silt loam, channery loam, silty clay loam	GM, CL, ML, CL-ML	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-38	2-19
	42-72	Channery silt loam, channery loam, silty clay loam	GM, ML, CL-ML, CL	A-4	0-5	0-10	65-95	50-92	40-90	30-75	15-37	2-19
114B:												
Pinckney--------	0-8	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	SM, ML, GM, CL-ML	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	SM, CL-ML, GM, ML	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
114C:												
Pinckney--------	0-8	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	GM, SM, ML, CL-ML	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	CL-ML, GM, ML, SM	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6
114D:												
Pinckney--------	0-8	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	SM, ML, GM, CL-ML	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	ML, CL-ML, SM, GM	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
115B:												
Chadakoin-------	0-1	Highly decomposed plant material	PT	A-8	0	0-5	100	100	70-100	50-100	---	---
	1-6	Silt loam, channery loam	ML, CL-ML, SC-SM, SM	A-4, A-6	0	0-5	65-95	50-92	40-90	30-75	20-40	1-12
	6-10	Silt loam, gravelly loam, gravelly fine sandy loam	SM, GC-GM, GM, ML	A-2, A-4	0	0-5	65-95	50-92	40-90	30-75	15-25	NP-5
	10-27	Channery silt loam, gravelly loam, fine sandy loam	ML, GC-GM, GM, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-75	15-25	NP-5
	27-32	Channery silt loam, gravelly loam, fine sandy loam	GC-GM, GM, ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-70	15-25	NP-5
	32-43	Channery loam, channery silt loam, very channery sandy loam	GM, SM, GC-GM	A-2, A-4	0-3	0-15	50-90	35-75	15-65	10-50	15-25	NP-5
	43-60	Very channery loam, gravelly silt loam, channery sandy loam	GM, SM, GC-GM	A-2, A-4	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5
	60-72	Very channery silt loam, gravelly loam, channery sandy loam	GM, SM, GC-GM	A-4, A-2	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
115C:												
Chadakoin-------	0-1	Highly decomposed plant material	PT	A-8	0	0-5	100	100	70-100	50-100	---	---
	1-6	Silt loam, channery loam	ML, SM, SC-SM, CL-ML	A-4, A-6	0	0-5	65-95	50-92	40-90	30-75	20-40	1-12
	6-10	Silt loam, gravelly loam, gravelly fine sandy loam	GM, ML, SM, GC-GM	A-2, A-4	0	0-5	65-95	50-92	40-90	30-75	15-25	NP-5
	10-27	Channery silt loam, gravelly loam, fine sandy loam	GM, GC-GM, ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-75	15-25	NP-5
	27-32	Channery silt loam, gravelly loam, fine sandy loam	GM, ML, SM, GC-GM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-70	15-25	NP-5
	32-43	Channery loam, channery silt loam, very channery sandy loam	GC-GM, SM, GM	A-2, A-4	0-3	0-15	50-90	35-75	15-65	10-50	15-25	NP-5
	43-60	Very channery loam, gravelly silt loam, channery sandy loam	GM, GC-GM, SM	A-2, A-4	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5
	60-72	Very channery silt loam, gravelly loam, channery sandy loam	GC-GM, GM, SM	A-4, A-2	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
115D:												
Chadakoin-------	0-1	Highly decomposed plant material	PT	A-8	0	0-5	100	100	70-100	50-100	---	---
	1-6	Silt loam, channery loam	ML, SM, SC-SM, CL-ML	A-4, A-6	0	0-5	65-95	50-92	40-90	30-75	20-40	1-12
	6-10	Silt loam, gravelly loam, gravelly fine sandy loam	GC-GM, GM, ML, SM	A-2, A-4	0	0-5	65-95	50-92	40-90	30-75	15-25	NP-5
	10-27	Channery silt loam, gravelly loam, fine sandy loam	ML, GC-GM, GM, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-75	15-25	NP-5
	27-32	Channery silt loam, gravelly loam, fine sandy loam	GC-GM, GM, ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-70	15-25	NP-5
	32-43	Channery loam, channery silt loam, very channery sandy loam	GC-GM, GM, SM	A-2, A-4	0-3	0-15	50-90	35-75	15-65	10-50	15-25	NP-5
	43-60	Very channery loam, gravelly silt loam, channery sandy loam	GC-GM, GM, SM	A-2, A-4	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5
	60-72	Very channery silt loam, gravelly loam, channery sandy loam	GC-GM, GM, SM	A-4, A-2	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
115E:												
Chadakoin-------	0-1	Highly decomposed plant material	PT	A-8	0	0-5	100	100	70-100	50-100	---	---
	1-6	Silt loam, channery loam	SC-SM, SM, ML, CL-ML	A-4, A-6	0	0-5	65-95	50-92	40-90	30-75	20-40	1-12
	6-10	Silt loam, gravelly loam, gravelly fine sandy loam	GM, ML, SM, GC-GM	A-2, A-4	0	0-5	65-95	50-92	40-90	30-75	15-25	NP-5
	10-27	Channery silt loam, gravelly loam, fine sandy loam	GC-GM, GM, ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-75	15-25	NP-5
	27-32	Channery silt loam, gravelly loam, fine sandy loam	SM, ML, GC-GM, GM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	25-70	15-25	NP-5
	32-43	Channery loam, channery silt loam, very channery sandy loam	GC-GM, GM, SM	A-2, A-4	0-3	0-15	50-90	35-75	15-65	10-50	15-25	NP-5
	43-60	Very channery loam, gravelly silt loam, channery sandy loam	GC-GM, SM, GM	A-2, A-4	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5
	60-72	Very channery silt loam, gravelly loam, channery sandy loam	SM, GM, GC-GM	A-4, A-2	0-5	0-30	40-85	25-70	10-65	5-50	15-25	NP-5
117A:												
Pittsfield------	0-9	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-100	75-100	50-90	30-75	15-40	NP-6
	9-15	Loam, gravelly fine sandy loam	SM, ML	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	15-22	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	22-32	Fine sandy loam, gravelly sandy loam, channery loam	ML, SM	A-2, A-4	0-2	0-15	85-95	75-92	40-85	20-70	15-20	NP-3
	32-45	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
	45-72	Fine sandy loam, loam, gravelly sandy loam	SM, ML	A-4, A-2	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
117B:												
Pittsfield------	0-9	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-100	75-100	50-90	30-75	15-40	NP-6
	9-15	Loam, gravelly fine sandy loam	SM, ML	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	15-22	Loam, gravelly fine sandy loam	SM, ML	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	22-32	Fine sandy loam, gravelly sandy loam, channery loam	SM, ML	A-2, A-4	0-2	0-15	85-95	75-92	40-85	20-70	15-20	NP-3
	32-45	Fine sandy loam, loam, gravelly sandy loam	SM, ML	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
	45-72	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
117C:												
Pittsfield------	0-9	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-100	75-100	50-90	30-75	15-40	NP-6
	9-15	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	15-22	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	22-32	Fine sandy loam, gravelly sandy loam, channery loam	ML, SM	A-2, A-4	0-2	0-15	85-95	75-92	40-85	20-70	15-20	NP-3
	32-45	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
	45-72	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
117D:												
Pittsfield------	0-9	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-100	75-100	50-90	30-75	15-40	NP-6
	9-15	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	15-22	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	22-32	Fine sandy loam, gravelly sandy loam, channery loam	ML, SM	A-2, A-4	0-2	0-15	85-95	75-92	40-85	20-70	15-20	NP-3
	32-45	Fine sandy loam, loam, gravelly sandy loam	SM, ML	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
	45-72	Fine sandy loam, loam, gravelly sandy loam	SM, ML	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
117E:												
Pittsfield------	0-9	Loam, gravelly fine sandy loam	SM, ML	A-2, A-4	0-1	0-10	85-100	75-100	50-90	30-75	15-40	NP-6
	9-15	Loam, gravelly fine sandy loam	ML, SM	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	15-22	Loam, gravelly fine sandy loam	SM, ML	A-2, A-4	0-1	0-10	85-95	75-92	50-85	30-70	15-20	NP-4
	22-32	Fine sandy loam, gravelly sandy loam, channery loam	SM, ML	A-2, A-4	0-2	0-15	85-95	75-92	40-85	20-70	15-20	NP-3
	32-45	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
	45-72	Fine sandy loam, loam, gravelly sandy loam	ML, SM	A-2, A-4	0-5	0-15	75-95	70-92	40-85	20-70	15-20	NP-3
119B:												
Pyrities--------	0-8	Loam, gravelly sandy loam, silt loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	8-15	Fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	15-27	Fine sandy loam, gravelly sandy loam, loam	ML, GM, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	27-66	Gravelly fine sandy loam, loam, very gravelly sandy loam	GM, SP-SM, SM, GP-GM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
	66-72	Gravelly fine sandy loam, loam, very gravelly sandy loam	GM, GP-GM, SP-SM, SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
119C:												
Pyrities--------	0-8	Loam, gravelly sandy loam, silt loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	8-15	Fine sandy loam, gravelly sandy loam, loam	SM, ML, GM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	15-27	Fine sandy loam, gravelly sandy loam, loam	ML, GM, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	27-66	Gravelly fine sandy loam, loam, very gravelly sandy loam	GM, SM, GP-GM, SP-SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
	66-72	Gravelly fine sandy loam, loam, very gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-4, A-2-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
119D:												
Pyrities--------	0-8	Loam, gravelly sandy loam, silt loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	8-15	Fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	15-27	Fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	27-66	Gravelly fine sandy loam, loam, very gravelly sandy loam	GM, SP-SM, GP-GM, SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
	66-72	Gravelly fine sandy loam, loam, very gravelly sandy loam	SP-SM, GM, SM, GP-GM	A-4, A-2-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
119E:												
Pyrities--------	0-8	Loam, gravelly sandy loam, silt loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	8-15	Fine sandy loam, gravelly sandy loam, loam	ML, GM, SM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	15-27	Fine sandy loam, gravelly sandy loam, loam	SM, ML, GM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	27-66	Gravelly fine sandy loam, loam, very gravelly sandy loam	GP-GM, SM, GM, SP-SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
	66-72	Gravelly fine sandy loam, loam, very gravelly sandy loam	GP-GM, SM, SP-SM, GM	A-4, A-2-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
120C:												
Pyrities, rolling, very bouldery-------	0-8	Loam, gravelly sandy loam, silt loam	ML, SM	A-2, A-4	1-5	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	8-15	Fine sandy loam, gravelly sandy loam, loam	ML, SM, GM	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	15-27	Fine sandy loam, gravelly sandy loam, loam	GM, SM, ML	A-4, A-2	0-3	0-10	65-95	50-92	30-85	15-70	20-30	1-5
	27-66	Gravelly fine sandy loam, loam, very gravelly sandy loam	SM, GP-GM, GM, SP-SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5
	66-72	Gravelly fine sandy loam, loam, very gravelly sandy loam	GP-GM, SP-SM, SM, GM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	20-30	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
121B:												
Worth-----------	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	ML, GM, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	SM, SC, GM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC, GM, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC, GM, SC-SM, SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	SC, SC-SM, GM, SM	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
121C:												
Worth-----------	0-8	Loam, gravelly silt loam, channery sandy loam	ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	GM, SC, SM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC-SM, SM, SC	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	GM, SM, SC-SM, SC	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
121D:												
Worth-----------	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	SC, SM, GM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC-SM, SC, SM, GM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SM, SC-SM, GM, SC	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	GM, SM, SC-SM, SC	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
121E:												
Worth-----------	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	GM, SC, SM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SM, SC, SC-SM, GM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC-SM, SM, SC, GM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	GM, SC, SC-SM, SM	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
126A:												
Lima	0-7	Gravelly silt loam, loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	7-12	Loam, gravelly silt loam, gravelly fine sandy loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	12-17	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	17-28	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	28-47	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam, very channery silt loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10
	47-72	Very channery silt loam, gravelly silt loam, very gravelly fine sandy loam, gravelly loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10
126B:												
Lima	0-7	Gravelly silt loam, loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	7-12	Loam, gravelly silt loam, gravelly fine sandy loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	12-17	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	17-28	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	28-47	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam, very channery silt loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10
	47-72	Very channery silt loam, gravelly silt loam, very gravelly fine sandy loam, gravelly loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
126C:												
Lima------------	0-7	Gravelly silt loam, loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	7-12	Loam, gravelly silt loam, gravelly fine sandy loam	CL, GM, ML, SM	A-6, A-2, A-7	0-1	0-10	70-95	55-92	40-90	20-80	35-45	10-20
	12-17	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	17-28	Gravelly silt loam, loam, gravelly clay loam	CL, GC, SC	A-6	0-1	0-10	70-95	55-92	40-90	30-80	30-40	10-20
	28-47	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam, very channery silt loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10
	47-72	Very channery silt loam, gravelly silt loam, very gravelly fine sandy loam, gravelly loam	SC, GC, CL-ML, CL	A-4, A-2, A-1	0-5	0-15	50-85	35-70	20-65	10-65	15-25	5-10
133B:												
Empeyville------	0-1	Highly decomposed plant material	PT	A-8	0-3	0-10	100	100	70-100	50-100	---	---
	1-3	Loam, gravelly sandy loam, silt loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	20-30	1-6
	3-11	Channery loam, gravelly sandy loam, silt loam	GM, SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	15-30	NP-6
	11-17	Channery fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-70	15-30	NP-6
	17-20	Fine sandy loam, gravelly sandy loam, gravelly loam	SM, GM	A-2, A-4	0-3	0-10	65-92	50-80	30-75	15-60	15-30	NP-6
	20-31	Channery fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-2-4, A-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
	31-72	Cobbly fine sandy loam, channery loam, very gravelly sandy loam	SM, ML, GM	A-2-4, A-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
133C:												
Empeyville------	0-1	Highly decomposed plant material	PT	A-8	0-3	0-10	100	100	70-100	50-100	---	---
	1-3	Loam, gravelly sandy loam, silt loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	20-30	1-6
	3-11	Channery loam, gravelly sandy loam, silt loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	15-30	NP-6
	11-17	Channery fine sandy loam, gravelly sandy loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-70	15-30	NP-6
	17-20	Fine sandy loam, gravelly sandy loam, gravelly loam	GM, SM	A-2, A-4	0-3	0-10	65-92	50-80	30-75	15-60	15-30	NP-6
	20-31	Channery fine sandy loam, gravelly loam, very gravelly sandy loam	SM, GM	A-2-4, A-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
	31-72	Cobbly fine sandy loam, channery loam, very gravelly sandy loam	SM, GM, ML	A-4, A-2-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
136A:												
Kendaia---------	0-9	Silt loam, gravelly fine sandy loam, loam	SM, SC, ML, CL	A-4, A-6	0-1	0-5	70-95	55-92	40-90	25-80	30-40	5-15
	9-13	Silt loam, loam, gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0-2	0-10	70-95	55-92	40-90	25-80	20-30	5-15
	13-32	Silt loam, loam, gravelly fine sandy loam	SC, CL, CL-ML, GC	A-2, A-4, A-6	0-3	0-10	70-95	55-92	35-90	20-80	20-30	5-15
	32-38	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	SC, CL, CL-ML, GC	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
	38-72	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	CL, SC, GC, CL-ML	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
136B:												
Kendaia---------	0-9	Silt loam, gravelly fine sandy loam, loam	SM, SC, ML, CL	A-4, A-6	0-1	0-5	70-95	55-92	40-90	25-80	30-40	5-15
	9-13	Silt loam, loam, gravelly fine sandy loam	GC, CL-ML, CL, SC	A-2, A-4, A-6	0-2	0-10	70-95	55-92	40-90	25-80	20-30	5-15
	13-32	Silt loam, loam, gravelly fine sandy loam	GC, CL-ML, CL, SC	A-2, A-4, A-6	0-3	0-10	70-95	55-92	35-90	20-80	20-30	5-15
	32-38	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	CL-ML, SC, CL, GC	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
	38-72	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	GC, SC, CL, CL-ML	A-4, A-6, A-2	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
144A:												
Westbury--------	0-1	Slightly decomposed plant material	PT	A-8	0-5	0-5	100	100	60-100	30-100	---	---
	1-3	Highly decomposed plant material	PT	A-8	0-5	0-5	65-100	50-100	35-100	20-100	---	---
	3-8	Silt loam, gravelly sandy loam, gravelly loam	SM, ML	A-2-4, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-41	NP-7
	8-18	Very fine sandy loam, silt loam, gravelly loam, sandy loam	SM, GM, ML	A-2, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-32	NP-7
	18-20	Fine sandy loam, loam, gravelly sandy loam, gravelly loamy sand	SM, GM	A-2, A-4	0-5	0-15	65-95	50-92	30-90	15-70	0-30	NP-7
	20-40	Gravelly fine sandy loam, very gravelly sandy loam, gravelly loam, very gravelly very fine sandy loam	GW-GM, SM, GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7
	40-72	Gravelly very fine sandy loam, very gravelly sandy loam, gravelly loam	GW-GM, GM, SM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
144B:												
Westbury--------	0-1	Slightly decomposed plant material	PT	A-8	0-5	0-5	100	100	60-100	30-100	---	---
	1-3	Highly decomposed plant material	PT	A-8	0-5	0-5	65-100	50-100	35-100	20-100	---	---
	3-8	Silt loam, gravelly sandy loam, gravelly loam	SM, ML	A-2-4, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-41	NP-7
	8-18	Very fine sandy loam, silt loam, gravelly loam, sandy loam	ML, GM, SM	A-2, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-32	NP-7
	18-20	Fine sandy loam, loam, gravelly sandy loam, gravelly loamy sand	GM, SM	A-2, A-4	0-5	0-15	65-95	50-92	30-90	15-70	0-30	NP-7
	20-40	Gravelly fine sandy loam, very gravelly sandy loam, gravelly loam, very gravelly very fine sandy loam	GM, SM, GW-GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7
	40-72	Gravelly very fine sandy loam, very gravelly sandy loam, gravelly loam	SM, GW-GM, GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7
146:												
Lyons-----------	0-9	Silt loam	ML	A-2, A-4, A-7	0-1	0-5	65-95	55-92	35-90	25-85	35-45	5-15
	9-15	Silt loam, gravelly fine sandy loam, silty clay loam	ML, SM	A-2, A-4, A-7	0-2	0-10	65-95	55-92	35-90	25-85	35-45	5-15
	15-21	Silt loam, gravelly fine sandy loam, silty clay loam	ML, SM	A-2, A-4, A-7	0-2	0-10	65-95	55-92	35-90	25-85	35-45	5-15
	21-30	Gravelly silt loam, fine sandy loam, silty clay loam	SM, ML	A-2, A-4, A-7	0-3	0-10	65-95	55-92	35-90	20-75	35-45	5-15
	30-72	Gravelly silt loam, loam, very gravelly fine sandy loam	CL, CL-ML, GC, GC-GM	A-2, A-4, A-6	0-5	0-20	45-92	30-85	20-80	10-70	20-35	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
150:												
Tughill, stony--	0-8	Muck	PT	A-8	0-3	0-15	100	100	100	100	---	---
	8-12	Cobbly silt loam, fine sandy loam, gravelly sandy loam	GC, OL, GM, SM	A-2, A-4	0-3	0-15	65-98	50-95	30-90	15-80	20-30	3-9
	12-16	Cobbly silt loam, fine sandy loam, gravelly sandy loam	CL-ML, GC, GM, GC-GM	A-4, A-2	0-3	0-15	65-98	50-95	30-90	15-80	20-30	3-9
	16-30	Very cobbly silt loam, very gravelly fine sandy loam, very cobbly sandy loam	GC-GM, GC, GM, SC-SM	A-2, A-4	0-5	3-25	45-75	30-55	15-55	10-45	20-30	3-9
	30-72	Very cobbly silt loam, very gravelly fine sandy loam, very cobbly sandy loam	GC-GM, SC-SM, GM, GC	A-1, A-2, A-4	0-5	5-25	45-75	30-55	15-55	10-45	20-30	3-9
151:												
Chippewa--------	0-7	Silt loam	OL, ML	A-5, A-7	0-1	0-5	65-100	50-100	40-95	30-85	40-50	5-15
	7-14	Silt loam, channery loam, channery silty clay loam	GM, CL, ML, SC-SM	A-4	0-3	0-10	65-100	50-98	40-95	30-85	25-35	5-10
	14-16	Silt loam, channery loam, channery silty clay loam	SC-SM, CL, ML, GM	A-4	0-3	0-10	65-100	50-98	40-95	30-85	25-35	5-10
	16-42	Channery silt loam, channery fine sandy loam, very channery silty clay loam	GC, SC, CL-ML, CL	A-2, A-4	0-5	0-15	50-85	35-70	20-70	10-65	15-25	5-10
	42-72	Channery silt loam, channery fine sandy loam, very channery silty clay loam	SM, ML, GM, CL-ML	A-2, A-4	0-5	0-15	50-85	35-70	20-70	10-65	25-35	5-10
152B:												
Farmington------	0-4	Silt loam, fine sandy loam, channery loam	CL, ML, SC, SM	A-2, A-4, A-6	0-1	0-5	65-95	50-92	35-90	20-80	25-49	6-18
	4-8	Silt loam, loam, gravelly fine sandy loam	CL, GC	A-2, A-4, A-6	0-1	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	8-14	Silt loam, gravelly loam, gravelly fine sandy loam	CL, GC	A-2, A-4, A-6	0-2	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	14-18	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
153C:												
Farmington------	0-4	Silt loam, fine sandy loam, channery loam	CL, ML, SC, SM	A-2, A-4, A-6	0-1	0-5	65-95	50-92	35-90	20-80	25-49	6-18
	4-8	Silt loam, loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-1	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	8-14	Silt loam, gravelly loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-2	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	14-18	Bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
153D:												
Farmington------	0-4	Silt loam, fine sandy loam, channery loam	SC, SM, ML, CL	A-4, A-6, A-2	0-1	0-5	65-95	50-92	35-90	20-80	25-49	6-18
	4-8	Silt loam, loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-1	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	8-14	Silt loam, gravelly loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-2	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	14-18	Bedrock	---	---	---	---	---	---	---	---	---	---
155:												
Dannemora, stony	0-8	Gravelly fine sandy loam, gravelly sandy loam, silt loam	SM, GM, ML	A-1-b, A-2-4, A-4	0-3	0-10	65-92	50-85	30-75	15-65	15-30	NP-4
	8-11	Gravelly fine sandy loam, gravelly sandy loam, silt loam	GM, ML, SM	A-1-b, A-2-4, A-4	0-3	0-10	65-92	50-85	30-75	15-65	15-30	NP-4
	11-16	Gravelly fine sandy loam, gravelly sandy loam, silt loam	SM, ML, GM	A-1, A-2, A-4	0-5	0-15	65-92	50-85	30-75	15-65	15-25	NP-4
	16-42	Very gravelly fine sandy loam, gravelly sandy loam, gravelly silt loam	SM, GM	A-1-b, A-2, A-4	0-5	0-20	50-80	35-65	15-55	10-50	15-25	NP-4
	42-72	Very gravelly fine sandy loam, gravelly sandy loam, gravelly loam	SM, GM	A-1-b, A-2, A-4	0-5	0-20	50-80	35-65	15-55	10-45	15-25	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
156B:												
Lairdsville, well drained---	0-8	Silt loam, channery silty clay loam	CL, ML	A-6, A-7	0	0	65-100	50-100	45-100	35-90	15-45	10-15
	8-16	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-100	45-100	35-95	25-35	10-15
	16-23	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-99	45-99	35-95	25-35	10-15
	23-26	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	26-30	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
156C:												
Lairdsville, well drained---	0-8	Silt loam, channery silty clay loam	CL, ML	A-6, A-7	0	0	65-100	50-100	45-100	35-90	15-45	10-15
	8-16	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-100	45-100	35-95	25-35	10-15
	16-23	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-99	45-99	35-95	25-35	10-15
	23-26	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	26-30	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
156E:												
Lairdsville, well drained---	0-8	Silt loam, channery silty clay loam	ML, CL	A-6, A-7	0	0	65-100	50-100	45-100	35-90	15-45	10-15
	8-16	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-100	45-100	35-95	25-35	10-15
	16-23	Silty clay loam, clay loam, channery silty clay	CL	A-6	0-1	0-5	65-100	50-99	45-99	35-95	25-35	10-15
	23-26	Weathered bedrock	---	---	0	0	---	---	---	---	---	---
	26-30	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
162B:												
Ischua----------	0-3	Silt loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	3-6	Silt loam, channery loam	SC, CL, SC-SM, CL-ML	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	6-18	Silt loam, channery loam, channery silty clay loam	SC, GC, CL-ML, CL	A-4, A-6	0-1	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	18-23	Channery silt loam, loam, channery silty clay loam	GC, SC, CL, CL-ML	A-4, A-6	0-3	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	23-33	Very channery silt loam, channery loam, silty clay loam	CL, CL-ML, SC, GC	A-4, A-6	0-5	0-20	45-92	30-85	25-80	20-70	25-40	5-20
	33-39	Extremely channery silt loam, loam, channery silty clay loam	CL-ML, SC, GC, CL	A-4, A-6	0-5	0-20	45-92	25-85	20-80	15-70	25-40	5-20
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---
162C:												
Ischua----------	0-3	Silt loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	3-6	Silt loam, channery loam	SC-SM, SC, CL, CL-ML	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	6-18	Silt loam, channery loam, channery silty clay loam	CL, CL-ML, GC, SC	A-4, A-6	0-1	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	18-23	Channery silt loam, loam, channery silty clay loam	GC, CL, CL-ML, SC	A-4, A-6	0-3	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	23-33	Very channery silt loam, channery loam, silty clay loam	GC, CL, SC, CL-ML	A-4, A-6	0-5	0-20	45-92	30-85	25-80	20-70	25-40	5-20
	33-39	Extremely channery silt loam, loam, channery silty clay loam	GC, CL-ML, CL, SC	A-4, A-6	0-5	0-20	45-92	25-85	20-80	15-70	25-40	5-20
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
162D:												
Ischua----------	0-3	Silt loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	3-6	Silt loam, channery loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-10	65-95	50-92	40-90	30-80	25-40	5-20
	6-18	Silt loam, channery loam, channery silty clay loam	CL, GC, CL-ML, SC	A-4, A-6	0-1	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	18-23	Channery silt loam, loam, channery silty clay loam	CL, GC, SC, CL-ML	A-4, A-6	0-3	0-15	65-95	50-92	40-90	30-80	25-40	5-20
	23-33	Very channery silt loam, channery loam, silty clay loam	CL, CL-ML, SC, GC	A-4, A-6	0-5	0-20	45-92	30-85	25-80	20-70	25-40	5-20
	33-39	Extremely channery silt loam, loam, channery silty clay loam	CL-ML, GC, CL, SC	A-4, A-6	0-5	0-20	45-92	25-85	20-80	15-70	25-40	5-20
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---
168B:												
Manlius---------	0-7	Channery silt loam, very channery loam	SM, ML, GM, CL-ML	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	7-14	Very channery silt loam, channery loam	ML, SM, CL-ML, GM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	14-24	Very channery silt loam, channery loam	GC-GM, GM	A-2-4, A-4	0-3	0-25	40-80	30-65	25-60	20-55	25-35	4-10
	24-28	Extremely channery silt loam, channery loam	GC-GM, GM, GW-GM	A-2-4, A-4	0-5	0-25	35-70	20-55	15-50	10-45	25-35	4-10
	28-32	Bedrock	---	---	---	---	---	---	---	---	---	---
168C:												
Manlius---------	0-7	Channery silt loam, very channery loam	CL-ML, GM, ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	7-14	Very channery silt loam, channery loam	CL-ML, GM, ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	14-24	Very channery silt loam, channery loam	GM, GC-GM	A-2-4, A-4	0-3	0-25	40-80	30-65	25-60	20-55	25-35	4-10
	24-28	Extremely channery silt loam, channery loam	GC-GM, GM, GW-GM	A-2-4, A-4	0-5	0-25	35-70	20-55	15-50	10-45	25-35	4-10
	28-32	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
168D:												
Manlius---------	0-7	Channery silt loam, very channery loam	CL-ML, GM, ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	7-14	Very channery silt loam, channery loam	ML, GM, CL-ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	14-24	Very channery silt loam, channery loam	GC-GM, GM	A-2-4, A-4	0-3	0-25	40-80	30-65	25-60	20-55	25-35	4-10
	24-28	Extremely channery silt loam, channery loam	GW-GM, GM, GC-GM	A-2-4, A-4	0-5	0-25	35-70	20-55	15-50	10-45	25-35	4-10
	28-32	Bedrock	---	---	---	---	---	---	---	---	---	---
168E:												
Manlius---------	0-7	Channery silt loam, very channery loam	ML, GM, CL-ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	7-14	Very channery silt loam, channery loam	CL-ML, GM, ML, SM	A-2, A-4	0-1	0-15	55-90	45-75	35-70	25-65	25-35	4-10
	14-24	Very channery silt loam, channery loam	GM, GC-GM	A-2-4, A-4	0-3	0-25	40-80	30-65	25-60	20-55	25-35	4-10
	24-28	Extremely channery silt loam, channery loam	GW-GM, GM, GC-GM	A-2-4, A-4	0-5	0-25	35-70	20-55	15-50	10-45	25-35	4-10
	28-32	Bedrock	---	---	---	---	---	---	---	---	---	---
173B:												
Mongaup---------	0-6	Silt loam, sandy loam, channery loam	CL-ML, SM, ML, SC-SM	A-2, A-4	0-1	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	6-13	Silt loam, channery loam, gravelly sandy loam	SM, CL-ML, GM, ML	A-2, A-4	0-2	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	13-20	Silt loam, channery loam, gravelly sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	20-26	Channery silt loam, loam, gravelly sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
173C:												
Mongaup---------	0-6	Silt loam, sandy loam, channery loam	SM, SC-SM, CL-ML, ML	A-2, A-4	0-1	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	6-13	Silt loam, channery loam, gravelly sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-2	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	13-20	Silt loam, channery loam, gravelly sandy loam	ML, SM, CL-ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	20-26	Channery silt loam, loam, gravelly sandy loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
173E:												
Mongaup---------	0-6	Silt loam, sandy loam, channery loam	SC-SM, ML, SM, CL-ML	A-2, A-4	0-1	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	6-13	Silt loam, channery loam, gravelly sandy loam	SM, ML, GM, CL-ML	A-2, A-4	0-2	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	13-20	Silt loam, channery loam, gravelly sandy loam	SM, ML, GM, CL-ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	20-26	Channery silt loam, loam, gravelly sandy loam	ML, GM, CL-ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-80	15-20	NP-5
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
176B:												
Nellis----------	0-7	Loam, channery fine sandy loam, silt loam	SM, ML	A-4	0-1	0-10	65-98	50-95	35-90	20-80	30-35	1-5
	7-12	Loam, silt loam, gravelly fine sandy loam	SM, ML, GM, CL-ML	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	12-20	Silt loam, loam, gravelly fine sandy loam	ML, CL-ML, GM, SM	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	20-25	Loam, silt loam, gravelly fine sandy loam	CL-ML, GM, SM, ML	A-2-4, A-4	0-5	0-15	65-95	50-92	35-90	20-80	20-25	1-5
	25-72	Gravelly fine sandy loam, very channery loam, sandy loam	GM, GC-GM, SC-SM, SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	15-25	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
176C:												
Nellis----------	0-7	Loam, channery fine sandy loam, silt loam	SM, ML	A-4	0-1	0-10	65-98	50-95	35-90	20-80	30-35	1-5
	7-12	Loam, silt loam, gravelly fine sandy loam	CL-ML, GM, ML, SM	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	12-20	Silt loam, loam, gravelly fine sandy loam	CL-ML, GM, ML, SM	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	20-25	Loam, silt loam, gravelly fine sandy loam	GM, ML, SM, CL-ML	A-2-4, A-4	0-5	0-15	65-95	50-92	35-90	20-80	20-25	1-5
	25-72	Gravelly fine sandy loam, very channery loam, sandy loam	GC-GM, GM, SC-SM, SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	15-25	NP-5
176D:												
Nellis----------	0-7	Loam, channery fine sandy loam, silt loam	ML, SM	A-4	0-1	0-10	65-98	50-95	35-90	20-80	30-35	1-5
	7-12	Loam, silt loam, gravelly fine sandy loam	SM, GM, CL-ML, ML	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	12-20	Silt loam, loam, gravelly fine sandy loam	GM, CL-ML, ML, SM	A-2-4, A-4	0-3	0-10	65-95	50-92	35-90	20-80	20-25	1-5
	20-25	Loam, silt loam, gravelly fine sandy loam	CL-ML, GM, ML, SM	A-2-4, A-4	0-5	0-15	65-95	50-92	35-90	20-80	20-25	1-5
	25-72	Gravelly fine sandy loam, very channery loam, sandy loam	GC-GM, GM, SC-SM, SM	A-2-4, A-4	0-5	0-20	50-95	35-92	15-85	10-70	15-25	NP-5
195:												
Palms, drained--	0-10	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	10-18	Muck, mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
	18-24	Silty clay loam, gravelly sandy loam, silt loam	CL, SC, SC-SM, SM, CL-ML	A-2, A-4, A-6, A-7	0	0-10	75-100	60-100	35-100	15-95	20-45	5-20
	24-72	Silt loam, silty clay loam, gravelly sandy loam	SC-SM, CL, SM, SC, CL-ML	A-2, A-4, A-6, A-7	0	0-10	75-100	60-100	35-100	15-95	18-43	3-25

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
200B:												
Bice------------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-2	Highly decomposed plant material	PT, OL	A-8	0-1	0-10	100	100	100	100	---	---
	2-9	Fine sandy loam, silt loam, gravelly loam	ML, GM, SM	A-2, A-4	0-1	0-10	75-95	60-92	40-80	25-70	0-35	NP-6
	9-20	Fine sandy loam, gravelly sandy loam, silt loam	ML, GM, SM	A-1-b, A-2, A-4	0-1	0-10	75-95	60-92	35-80	20-70	0-22	NP-6
	20-30	Very fine sandy loam, gravelly sandy loam, loam	ML, SM, GM	A-1-b, A-2, A-4	0-3	0-10	75-95	60-92	35-80	15-70	0-22	NP-6
	30-40	Gravelly fine sandy loam, gravelly sandy loam, loam	GM, SM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
	40-72	Gravelly fine sandy loam, gravelly sandy loam, loam	SM, GM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
200C:												
Bice------------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-2	Highly decomposed plant material	OL, PT	A-8	0-1	0-10	100	100	100	100	---	---
	2-9	Fine sandy loam, silt loam, gravelly loam	ML, GM, SM	A-2, A-4	0-1	0-10	75-95	60-92	40-80	25-70	0-35	NP-6
	9-20	Fine sandy loam, gravelly sandy loam, silt loam	ML, GM, SM	A-1-b, A-2, A-4	0-1	0-10	75-95	60-92	35-80	20-70	0-22	NP-6
	20-30	Very fine sandy loam, gravelly sandy loam, loam	ML, GM, SM	A-1-b, A-2, A-4	0-3	0-10	75-95	60-92	35-80	15-70	0-22	NP-6
	30-40	Gravelly fine sandy loam, gravelly sandy loam, loam	SM, GM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
	40-72	Gravelly fine sandy loam, gravelly sandy loam, loam	GM, SM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
200D:												
Bice------------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-2	Highly decomposed plant material	OL, PT	A-8	0-1	0-10	100	100	100	100	---	---
	2-9	Fine sandy loam, silt loam, gravelly loam	GM, ML, SM	A-2, A-4	0-1	0-10	75-95	60-92	40-80	25-70	0-35	NP-6
	9-20	Fine sandy loam, gravelly sandy loam, silt loam	SM, ML, GM	A-1-b, A-2, A-4	0-1	0-10	75-95	60-92	35-80	20-70	0-22	NP-6
	20-30	Very fine sandy loam, gravelly sandy loam, loam	GM, SM, ML	A-1-b, A-2, A-4	0-3	0-10	75-95	60-92	35-80	15-70	0-22	NP-6
	30-40	Gravelly fine sandy loam, gravelly sandy loam, loam	GM, SM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
	40-72	Gravelly fine sandy loam, gravelly sandy loam, loam	GM, SM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
200E:												
Bice------------	0-1	Slightly decomposed plant material	PT	A-8	0-1	0-10	100	100	100	100	---	---
	1-2	Highly decomposed plant material	OL, PT	A-8	0-1	0-10	100	100	100	100	---	---
	2-9	Fine sandy loam, silt loam, gravelly loam	SM, ML, GM	A-2, A-4	0-1	0-10	75-95	60-92	40-80	25-70	0-35	NP-6
	9-20	Fine sandy loam, gravelly sandy loam, silt loam	SM, ML, GM	A-1-b, A-2, A-4	0-1	0-10	75-95	60-92	35-80	20-70	0-22	NP-6
	20-30	Very fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-1-b, A-2, A-4	0-3	0-10	75-95	60-92	35-80	15-70	0-22	NP-6
	30-40	Gravelly fine sandy loam, gravelly sandy loam, loam	SM, GM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4
	40-72	Gravelly fine sandy loam, gravelly sandy loam, loam	GM, SM	A-1-b, A-2, A-4	0-3	0-15	75-95	60-92	35-80	15-60	0-20	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
212:												
Adrian----------	0-8	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	8-12	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	12-21	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	21-72	Gravelly loamy sand, fine sand, sand, very gravelly coarse sand	SP, SM	A-1, A-2, A-3	0	0	45-100	25-100	10-80	0-35	---	NP
221B:												
Kalurah---------	0-9	Silt loam, gravelly fine sandy loam, loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	CL-ML, GM, SC-SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	ML, CL-ML, GM, SC-SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	ML, GM, SC-SM, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	SM, GM, SC-SM, ML	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	SM, GM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
221C:												
Kalurah---------	0-9	Silt loam, gravelly fine sandy loam, loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, ML, GM, CL-ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	ML, SC-SM, GM, CL-ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, SC-SM, SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	SC-SM, ML, GM, SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	ML, GM, SM, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
221D:												
Kalurah---------	0-9	Silt loam, gravelly fine sandy loam, loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	ML, SC-SM, GM, CL-ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	ML, SC-SM, GM, CL-ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	ML, SM, GM, SC-SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	SM, GM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
221E:												
Kalurah---------	0-9	Silt loam, gravelly fine sandy loam, loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, CL-ML, GM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	CL-ML, GM, SC-SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, SC-SM, SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	SC-SM, ML, GM, SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	GM, SM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
223A:												
Malone----------	0-9	Loam, silt loam, gravelly sandy loam	CL, SC, ML	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	CL-ML, GC, SC, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	CL-ML, GC, SC, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	CL-ML, GC, SC, SC-SM	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	SC, GC-GM, GC, CL-ML	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15
223B:												
Malone----------	0-9	Loam, silt loam, gravelly sandy loam	SC, ML, CL	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	GC, CL-ML, SC-SM, SC	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	CL-ML, GC, SC, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	SC-SM, CL-ML, GC, SC	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	SC, GC, GC-GM, CL-ML	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
223C:												
Malone----------	0-9	Loam, silt loam, gravelly sandy loam	CL, ML, SC	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, SC, GC, CL-ML	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	SC-SM, GC, SC, CL-ML	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	SC, GC, CL-ML, SC-SM	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	GC, GC-GM, SC, CL-ML	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15
256D:												
Becket, very bouldery-------	0-1	Highly decomposed plant material	OL, PT	A-4, A-8	0-5	0-15	70-95	60-92	40-85	20-60	0-30	NP-10
	1-3	Fine sandy loam, loam, gravelly sandy loam	SC, SC-SM, SM	A-2, A-4	1-5	0-15	70-95	60-92	35-85	15-60	15-25	NP-10
	3-16	Fine sandy loam, sandy loam, gravelly sandy loam	SM, SC, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	16-24	Fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SM, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	35-75	15-50	15-25	NP-10
	24-34	Gravelly fine sandy loam, loamy sand, gravelly sandy loam, loamy fine sand	SC, SM, SC-SM	A-2, A-4	0-5	0-15	70-95	60-92	30-75	10-50	15-25	NP-10
	34-41	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP
	41-72	Gravelly loamy sand, loamy fine sand, stratified very gravelly loamy sand to gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	0-5	0-25	60-95	45-92	20-70	5-45	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
260A:												
Ovid------------	0-11	Silt loam	CL-ML, ML, SC-SM, SM	A-2, A-4, A-6, A-7	0	0	70-100	60-98	40-95	25-90	25-45	5-15
	11-20	Silt loam, silty clay loam, gravelly fine sandy loam	CL-ML, CL, SC, GC-GM	A-4, A-6	0	0-5	70-100	60-98	40-95	25-90	20-35	5-15
	20-26	Silty clay loam, clay loam, gravelly clay loam	CL-ML, SC, GC-GM, CL	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	26-32	Silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC-GM, SC	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	32-39	Silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC-GM, SC	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	39-72	Gravelly silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	70-100	60-98	55-95	40-90	20-35	5-15
260B:												
Ovid------------	0-11	Silt loam	ML, SC-SM, SM, CL-ML	A-2, A-4, A-6, A-7	0	0	70-100	60-98	40-95	25-90	25-45	5-15
	11-20	Silt loam, silty clay loam, gravelly fine sandy loam	CL, CL-ML, GC-GM, SC	A-4, A-6	0	0-5	70-100	60-98	40-95	25-90	20-35	5-15
	20-26	Silty clay loam, clay loam, gravelly clay loam	CL-ML, GC-GM, CL, SC	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	26-32	Silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC-GM, SC	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	32-39	Silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC-GM, SC	A-4, A-6	0	0-5	70-100	60-98	55-95	40-90	20-35	5-15
	39-72	Gravelly silty clay loam, clay loam, gravelly clay loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	70-100	60-98	55-95	40-90	20-35	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
267B:												
Greene----------	0-8	Silt loam	ML, MH	A-7	0-1	0-10	85-95	75-92	60-90	40-85	40-55	10-20
	8-18	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	18-27	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	27-39	Gravelly loam, channery silt loam, silty clay loam	SC-SM, ML, CL-ML, SM	A-4	0-3	0-15	65-95	50-92	40-90	30-85	20-30	1-7
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---
267C:												
Greene----------	0-8	Silt loam	ML, MH	A-7	0-1	0-10	85-95	75-92	60-90	40-85	40-55	10-20
	8-18	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	18-27	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	27-39	Gravelly loam, channery silt loam, silty clay loam	SC-SM, ML, CL-ML, SM	A-4	0-3	0-15	65-95	50-92	40-90	30-85	20-30	1-7
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---
269:												
Greene----------	0-8	Silt loam	ML, MH	A-7	0-1	0-10	85-95	75-92	60-90	40-85	40-55	10-20
	8-18	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	18-27	Silt loam, channery loam, channery silty clay loam	ML, MH, SM	A-7	0-3	0-15	65-95	50-92	40-90	30-85	40-55	10-20
	27-39	Gravelly loam, channery silt loam, silty clay loam	SC-SM, ML, CL-ML, SM	A-4	0-3	0-15	65-95	50-92	40-90	30-85	20-30	1-7
	39-43	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
269:												
Tuller----------	0-3	Channery silt loam	ML, MH, GM	A-4, A-7, A-6	0-1	0-10	65-95	50-92	40-85	30-70	29-55	5-18
	3-9	Channery silt loam, channery loam, very fine sandy loam	SC-SM, CL-ML, GC-GM	A-4, A-6, A-2	0-3	0-20	50-92	35-80	30-80	20-70	20-39	6-19
	9-11	Channery silt loam, channery loam, very fine sandy loam	SC-SM, CL-ML, GC-GM	A-2, A-4, A-6	0-3	0-20	50-92	35-80	30-80	20-70	20-39	6-19
	11-15	Bedrock	---	---	---	---	---	---	---	---	---	---
295:												
Carlisle, drained--------	0-10	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	10-18	Muck	PT	A-8	0	0	100	100	100	100	---	---
	18-51	Muck	PT	A-8	0	0	100	100	100	100	---	---
	51-54	Muck, mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
	54-72	Silty clay loam, gravelly loam, fine sandy loam	ML, SM, CL	A-2, A-6, A-4	0-3	0-10	75-100	60-100	35-100	15-95	15-52	1-32
350A:												
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GM, ML, SM, GP-GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	GM, SM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	SM, GW, GM, SW, SW-SM, GW-GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
350B:												
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GP-GM, ML, SM, GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	GM, SM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW-SM, SW, SM, GW, GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2
350C:												
Alton-----------	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GP-GM, GM, SM, ML	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	SM, SW, SW-SM, GW-GM, GM, GW	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
355B:												
Arnot-----------	0-7	Channery silt loam	ML, GM, SM	A-2, A-4, A-5	0-1	0-10	35-92	25-85	20-80	10-70	35-45	1-9
	7-16	Very channery silt loam, very channery loam	GM	A-1, A-2, A-4	0-3	0-20	35-75	25-50	15-45	10-45	20-35	1-9
	16-19	Very channery silt loam, very channery loam	GM	A-1, A-2, A-4	0-3	0-25	35-75	25-50	15-45	10-45	20-35	1-9
	19-23	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
372A:												
Appleton--------	0-7	Silt loam	ML, SM	A-2, A-6, A-7	0	0-5	65-96	50-92	35-90	20-80	35-45	10-15
	7-19	Loam, silt loam, gravelly sandy clay loam	SM, CL-ML, GM, ML	A-2, A-4	0-1	0-5	65-96	50-92	40-90	20-80	25-35	5-10
	19-27	Loam, sandy clay loam, gravelly silt loam	GC, GC-GM, CL, SC	A-2, A-4	0-3	0-10	65-96	50-92	40-90	25-80	20-30	5-10
	27-72	Loam, gravelly silt loam, fine sandy loam	CL, SC, GC, CL-ML	A-2, A-4	0-5	0-15	50-96	35-92	20-80	10-75	15-25	5-10
372B:												
Appleton--------	0-7	Silt loam	SM, ML	A-2, A-6, A-7	0	0-5	65-96	50-92	35-90	20-80	35-45	10-15
	7-19	Loam, silt loam, gravelly sandy clay loam	SM, ML, GM, CL-ML	A-2, A-4	0-1	0-5	65-96	50-92	40-90	20-80	25-35	5-10
	19-27	Loam, sandy clay loam, gravelly silt loam	CL, GC, GC-GM, SC	A-2, A-4	0-3	0-10	65-96	50-92	40-90	25-80	20-30	5-10
	27-72	Loam, gravelly silt loam, fine sandy loam	CL-ML, GC, SC, CL	A-2, A-4	0-5	0-15	50-96	35-92	20-80	10-75	15-25	5-10
395:												
Palms-----------	0-10	Muck, mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	10-18	Muck, mucky peat	PT	A-8	0	0	100	100	100	75-100	---	---
	18-24	Silty clay loam, gravelly sandy loam, silt loam	SC, CL, SC-SM, SM, CL-ML	A-2, A-4, A-6, A-7	0	0-10	75-100	60-100	35-100	15-95	20-45	5-20
	24-72	Silt loam, silty clay loam, gravelly sandy loam	CL-ML, SM, SC-SM, CL, SC	A-2, A-4, A-6, A-7	0	0-10	75-100	60-100	35-100	15-95	18-43	3-25
397:												
Wonsqueak-------	0-4	Muck	PT	A-8	0	0	100	100	95-100	80-100	---	---
	4-15	Muck, mucky peat	PT	A-8	0	0	100	100	95-100	80-100	---	---
	15-27	Muck	PT	A-8	0	0	100	100	95-100	80-100	---	---
	27-72	Fine sandy loam, gravelly silt loam, silty clay loam	CL, CL-ML, ML, SM	A-2, A-4, A-6	0	0-5	80-100	70-100	50-100	30-95	16-43	2-21

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
398:												
Dawson----------	0-6	Peat, mucky peat	PT	A-8	0	0	100	100	95-100	80-100	---	---
	6-20	Muck	PT	A-8	0	0	100	100	70-100	50-100	---	---
	20-23	Sand, loam, mucky fine sand, silt loam	SP-SM, SM, ML	A-3, A-2-4, A-1-b	0	0	100	100	50-100	5-80	0-59	NP-9
	23-72	Sand, gravelly sand, very gravelly very fine sand	SW-SM, GP, SP	A-1, A-2, A-3, A-4	0	0	45-100	25-100	15-90	0-45	0-23	NP-6
413B:												
Venango---------	0-5	Silt loam	CL, CL-ML, ML	A-4	0-1	0-10	75-100	65-100	50-95	35-85	22-35	4-10
	5-11	Silt loam	ML, CL-ML, CL	A-4	0-1	0-10	75-100	65-100	50-95	35-85	22-35	4-10
	11-23	Loam, gravelly silty clay loam, gravelly silt loam	CL, ML, SC, SM	A-4, A-6, A-7	0-2	0-10	75-98	65-96	50-95	35-85	25-45	5-15
	23-27	Loam, gravelly silty clay loam, gravelly silt loam	CL, ML, SM, SC	A-4, A-6, A-7	0-2	0-10	75-98	65-96	50-95	35-85	25-45	5-15
	27-39	Channery silt loam, channery silty clay loam, loam	ML, SC, SM, CL	A-4, A-6	0-3	0-10	75-98	65-96	50-95	35-85	20-35	3-14
	39-72	Gravelly silt loam, channery loam, loam	CL, SM, ML, SC	A-4, A-6	0-3	0-10	75-98	65-96	50-95	35-80	20-35	3-14
413C:												
Venango---------	0-5	Silt loam	CL-ML, CL, ML	A-4	0-1	0-10	75-100	65-100	50-95	35-85	22-35	4-10
	5-11	Silt loam	ML, CL-ML, CL	A-4	0-1	0-10	75-100	65-100	50-95	35-85	22-35	4-10
	11-23	Loam, gravelly silty clay loam, gravelly silt loam	CL, ML, SC, SM	A-4, A-6, A-7	0-2	0-10	75-98	65-96	50-95	35-85	25-45	5-15
	23-27	Loam, gravelly silty clay loam, gravelly silt loam	SM, SC, ML, CL	A-4, A-6, A-7	0-2	0-10	75-98	65-96	50-95	35-85	25-45	5-15
	27-39	Channery silt loam, channery silty clay loam, loam	CL, ML, SC, SM	A-4, A-6	0-3	0-10	75-98	65-96	50-95	35-85	20-35	3-14
	39-72	Gravelly silt loam, channery loam, loam	SM, SC, ML, CL	A-4, A-6	0-3	0-10	75-98	65-96	50-95	35-80	20-35	3-14

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
414B:												
Mardin----------	0-4	Loam	CL, ML, SC, CL-ML	A-4	0-1	0-10	65-95	50-92	40-90	30-80	25-35	5-10
	4-17	Channery loam, loam, gravelly silt loam	SC-SM, CL-ML, CL, GC	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	17-21	Loam, channery silt loam, gravelly loam	CL, CL-ML, GC, SC-SM	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	21-24	Channery loam, loam, gravelly silt loam	GC, CL, CL-ML, SC-SM	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	24-59	Channery loam, channery silt loam, very channery loam	CL-ML, GC, CL, SC	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
	59-65	Very channery silt loam, channery silt loam, channery loam	CL, CL-ML, SC, GC	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
414C:												
Mardin----------	0-4	Loam	CL, CL-ML, ML, SC	A-4	0-1	0-10	65-95	50-92	40-90	30-80	25-35	5-10
	4-17	Channery loam, loam, gravelly silt loam	SC-SM, GC, CL, CL-ML	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	17-21	Loam, channery silt loam, gravelly loam	SC-SM, CL, GC, CL-ML	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	21-24	Channery loam, loam, gravelly silt loam	CL-ML, SC-SM, GC, CL	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	24-59	Channery loam, channery silt loam, very channery loam	SC, GC, CL-ML, CL	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
	59-65	Very channery silt loam, channery silt loam, channery loam	GC, CL, CL-ML, SC	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
414D:												
Mardin----------	0-4	Loam	ML, SC, CL-ML, CL	A-4	0-1	0-10	65-95	50-92	40-90	30-80	25-35	5-10
	4-17	Channery loam, loam, gravelly silt loam	SC-SM, GC, CL-ML, CL	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	17-21	Loam, channery silt loam, gravelly loam	CL, CL-ML, GC, SC-SM	A-4	0-2	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	21-24	Channery loam, loam, gravelly silt loam	SC-SM, GC, CL-ML, CL	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-25	5-10
	24-59	Channery loam, channery silt loam, very channery loam	SC, GC, CL, CL-ML	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
	59-65	Very channery silt loam, channery silt loam, channery loam	CL, CL-ML, GC, SC	A-2, A-4	0-5	0-25	45-90	30-75	25-70	20-65	20-30	5-10
461:												
Marcy-----------	0-6	Silt loam	OH, ML, OL	A-4, A-7	0-1	0-10	65-95	50-92	40-90	30-85	35-55	5-15
	6-12	Silt loam, gravelly loam, channery silty clay loam	ML, CL-ML	A-4	0-3	0-10	65-95	50-92	40-90	30-85	20-30	2-10
	12-14	Loam, gravelly silt loam, channery silty clay loam	CL-ML, ML	A-4	0-3	0-10	65-95	50-92	40-90	30-85	20-30	2-10
	14-40	Gravelly loam, channery silt loam, loam	CL-ML, SC-SM, ML, GM	A-4	0-3	0-10	65-95	50-92	40-90	30-80	15-25	2-6
	40-72	Gravelly loam, channery silt loam, loam	CL-ML, GM, ML, SC-SM	A-4	0-3	0-15	65-95	50-92	40-90	30-80	15-25	2-6
462:												
Runeberg--------	0-9	Loam	SM, CL-ML, ML	A-4	0	0-5	85-96	75-95	40-90	20-70	15-25	NP-5
	9-12	Loam, gravelly sandy loam	ML, SC-SM, SM, CL-ML	A-2, A-4	0-1	0-5	85-96	75-95	40-90	20-70	15-25	3-10
	12-16	Loam, gravelly sandy loam	CL-ML, SM, ML, SC-SM	A-2, A-4	0-1	0-5	85-96	75-95	40-90	20-70	15-25	3-10
	16-26	Loam, gravelly sandy loam	ML, SC-SM, SM, CL-ML	A-2, A-4	0-1	0-5	85-96	75-95	40-90	20-70	15-25	3-10
	26-72	Loam, sandy loam, gravelly fine sandy loam	SM, CL-ML, SC-SM, ML	A-2, A-4	0-1	0-5	75-96	70-95	40-90	20-70	15-25	3-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
515A:												
Galway, well drained--------	0-5	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	SM, ML	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-6, A-2, A-4	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
515B:												
Galway, well drained--------	0-5	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
515C:												
Galway, well drained--------	0-5	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	SM, ML	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
565B:												
Aurora----------	0-7	Silt loam	SC, CL	A-6	0	0	70-100	55-100	45-100	30-90	30-40	11-20
	7-10	Silt loam, channery loam	CL, GC, SC	A-6	0-1	0-5	65-98	50-96	45-95	30-90	25-35	11-20
	10-13	Silty clay loam, channery clay loam, silt loam	GC, CL, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	13-19	Silty clay loam, channery clay loam, silt loam	SC, CL, GC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	19-22	Silty clay loam, channery clay loam, silt loam	SC, GC, CL	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	22-26	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
565C:												
Aurora----------	0-7	Silt loam	SC, CL	A-6	0	0	70-100	55-100	45-100	30-90	30-40	11-20
	7-10	Silt loam, channery loam	GC, CL, SC	A-6	0-1	0-5	65-98	50-96	45-95	30-90	25-35	11-20
	10-13	Silty clay loam, channery clay loam, silt loam	GC, CL, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	13-19	Silty clay loam, channery clay loam, silt loam	GC, CL, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	19-22	Silty clay loam, channery clay loam, silt loam	CL, GC, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	22-26	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
565D:												
Aurora----------	0-7	Silt loam	CL, SC	A-6	0	0	70-100	55-100	45-100	30-90	30-40	11-20
	7-10	Silt loam, channery loam	SC, GC, CL	A-6	0-1	0-5	65-98	50-96	45-95	30-90	25-35	11-20
	10-13	Silty clay loam, channery clay loam, silt loam	CL, GC, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	13-19	Silty clay loam, channery clay loam, silt loam	SC, GC, CL	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	19-22	Silty clay loam, channery clay loam, silt loam	GC, CL, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	22-26	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
565E:												
Aurora----------	0-7	Silt loam	SC, CL	A-6	0	0	70-100	55-100	45-100	30-90	30-40	11-20
	7-10	Silt loam, channery loam	CL, GC, SC	A-6	0-1	0-5	65-98	50-96	45-95	30-90	25-35	11-20
	10-13	Silty clay loam, channery clay loam, silt loam	SC, CL, GC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	13-19	Silty clay loam, channery clay loam, silt loam	SC, GC, CL	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	19-22	Silty clay loam, channery clay loam, silt loam	CL, GC, SC	A-6	0-2	0-5	65-98	50-96	45-95	35-90	25-35	11-20
	22-26	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
582A:												
Amenia----------	0-7	Silt loam	SM, SC, ML, CL-ML	A-4	0-1	0-5	65-95	50-92	35-90	20-80	15-30	NP-10
	7-12	Silt loam, loam, gravelly fine sandy loam	ML, SM, SC, CL-ML	A-4	0-1	0-5	65-95	50-92	35-90	20-80	15-30	NP-10
	12-20	Silt loam, loam, gravelly fine sandy loam	GC, CL-ML, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	35-90	20-80	15-30	NP-10
	20-31	Gravelly silt loam, loam, gravelly fine sandy loam	ML, GC, CL-ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	35-85	20-70	15-30	NP-10
	31-72	Gravelly fine sandy loam, gravelly loam, silt loam	SC-SM, SM, GC, GM	A-2, A-4	0-5	0-15	65-95	50-92	35-85	20-70	15-30	NP-10
582B:												
Amenia----------	0-7	Silt loam	SM, SC, ML, CL-ML	A-4	0-1	0-5	65-95	50-92	35-90	20-80	15-30	NP-10
	7-12	Silt loam, loam, gravelly fine sandy loam	SC, CL-ML, ML, SM	A-4	0-1	0-5	65-95	50-92	35-90	20-80	15-30	NP-10
	12-20	Silt loam, loam, gravelly fine sandy loam	ML, CL-ML, GC, GM	A-2, A-4	0-3	0-10	65-95	50-92	35-90	20-80	15-30	NP-10
	20-31	Gravelly silt loam, loam, gravelly fine sandy loam	CL-ML, GC, GM, ML	A-2, A-4	0-3	0-10	65-95	50-92	35-85	20-70	15-30	NP-10
	31-72	Gravelly fine sandy loam, gravelly loam, silt loam	SC-SM, SM, GM, GC	A-2, A-4	0-5	0-15	65-95	50-92	35-85	20-70	15-30	NP-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
747A:												
Manheim---------	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
747B:												
Manheim---------	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
747C:												
Manheim---------	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
750B:												
Minoa-----------	0-9	Fine sandy loam	SM, ML	A-4	0	0	95-100	92-100	65-100	35-80	15-20	NP-4
	9-13	Fine sandy loam, silt loam, loamy very fine sand	ML, SM	A-4	0	0	95-100	92-100	65-100	35-80	15-20	NP-4
	13-26	Fine sandy loam, silt loam, loamy very fine sand	SM, ML	A-4	0	0	95-100	92-100	65-100	35-80	15-20	NP-4
	26-36	Fine sandy loam, loamy very fine sand, silt loam	ML, SM	A-4	0	0	95-100	92-100	65-100	35-80	15-20	NP-4
	36-51	Loamy fine sand, fine sandy loam, silt loam	ML, SM	A-2-4, A-4	0	0	95-100	92-100	55-100	20-90	15-20	NP-4
	51-72	Fine sand, fine sandy loam, silt loam	ML, SM	A-4, A-2-4	0	0	95-100	92-100	55-100	20-90	15-20	NP-4

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
790A:												
Conesus---------	0-7	Silt loam	SC-SM, CL-ML, CL	A-4, A-6	0	0-8	70-95	55-92	45-90	35-80	25-35	5-15
	7-13	Silt loam, gravelly silt loam, gravelly loam	CL, GC, CL-ML	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-80	20-30	5-15
	13-24	Silt loam, gravelly silty clay loam, gravelly loam	GC, CL, CL-ML	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	24-35	Gravelly silty clay loam, silt loam, gravelly loam	GC, CL, CL-ML	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	35-42	Gravelly silt loam, silty clay loam, gravelly loam	CL-ML, GC, SC, CL	A-4, A-6	0-2	0-10	70-95	55-92	45-90	35-85	20-30	5-15
	42-72	Very gravelly silt loam, silt loam, gravelly loam	CL-ML, CL, GC, SC	A-2, A-4, A-6	0-3	0-15	50-92	35-85	25-80	20-70	20-30	5-15
790B:												
Conesus---------	0-7	Silt loam	SC-SM, CL-ML, CL	A-4, A-6	0	0-8	70-95	55-92	45-90	35-80	25-35	5-15
	7-13	Silt loam, gravelly silt loam, gravelly loam	CL-ML, GC, CL	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-80	20-30	5-15
	13-24	Silt loam, gravelly silty clay loam, gravelly loam	CL-ML, CL, GC	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	24-35	Gravelly silty clay loam, silt loam, gravelly loam	GC, CL, CL-ML	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	35-42	Gravelly silt loam, silty clay loam, gravelly loam	SC, GC, CL-ML, CL	A-4, A-6	0-2	0-10	70-95	55-92	45-90	35-85	20-30	5-15
	42-72	Very gravelly silt loam, silt loam, gravelly loam	GC, SC, CL, CL-ML	A-2, A-4, A-6	0-3	0-15	50-92	35-85	25-80	20-70	20-30	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
790C:												
Conesus---------	0-7	Silt loam	CL-ML, CL, SC-SM	A-4, A-6	0	0-8	70-95	55-92	45-90	35-80	25-35	5-15
	7-13	Silt loam, gravelly silt loam, gravelly loam	CL, CL-ML, GC	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-80	20-30	5-15
	13-24	Silt loam, gravelly silty clay loam, gravelly loam	CL-ML, CL, GC	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	24-35	Gravelly silty clay loam, silt loam, gravelly loam	CL, CL-ML, GC	A-4, A-6	0-2	0-8	70-95	55-92	45-90	35-85	20-30	5-15
	35-42	Gravelly silt loam, silty clay loam, gravelly loam	CL-ML, SC, CL, GC	A-4, A-6	0-2	0-10	70-95	55-92	45-90	35-85	20-30	5-15
	42-72	Very gravelly silt loam, silt loam, gravelly loam	SC, GC, CL-ML, CL	A-2, A-4, A-6	0-3	0-15	50-92	35-85	25-80	20-70	20-30	5-15
801B:												
Alton, cool-----	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GM, GP-GM, ML, SM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	GM, SM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-25	40-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	SW-SM, GM, SM, SW, GW-GM, GW	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
801C:												
Alton, cool-----	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GM, GP-GM, ML, SM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	GM, SM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW-SM, SW, SM, GW, GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2
802D:												
Howard, cool----	0-11	Gravelly loam, silt loam	ML, GM, GC-GM, CL	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	CL-ML, GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC, GC-GM, SC	A-4, A-2-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	SC, GC-GM, GC	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW-GM, GW	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW-GM, GW	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
802D:												
Alton, cool-----	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	GM, GP-GM, SM, ML	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	SM, GW, SW, GM, SW-SM, GW-GM	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2
802E:												
Howard, cool----	0-11	Gravelly loam, silt loam	ML, GM, GC-GM, CL	A-2, A-4	0	0-10	65-95	50-92	35-80	20-65	25-35	5-10
	11-20	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	CL-ML, GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	20-29	Very gravelly loam, very gravelly sandy loam, gravelly silt loam	GC, GC-GM, SC	A-2-4, A-4	0	0-15	50-90	35-75	20-70	10-60	15-25	5-10
	29-44	Very gravelly sandy loam, very gravelly loam, very gravelly silt loam, very gravelly clay loam	GC-GM, SC, GC	A-2-4, A-4	0	0-30	45-70	30-50	15-50	10-40	15-25	5-10
	44-75	Extremely gravelly sandy loam, very gravelly fine sandy loam	GW, GW-GM	A-1	0	0-35	40-70	25-40	10-35	0-15	15-20	NP-5
	75-100	Stratified very gravelly loamy sand to sand to extremely gravelly sand, very gravelly loamy fine sand	GW-GM, GW	A-1	0	0-35	35-70	25-40	10-30	0-15	15-20	NP-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
802E:												
Alton, cool-----	0-9	Gravelly loam, very gravelly loamy sand, sandy loam	ML, GM, SM, GP-GM	A-1, A-2, A-4	0	0-10	60-92	35-85	20-75	10-50	0-35	NP-7
	9-24	Very gravelly fine sandy loam, gravelly loam, sandy loam	SM, GM	A-1, A-2, A-4	0	0-20	60-92	35-85	15-75	10-50	0-26	NP-7
	24-40	Very gravelly sandy loam, gravelly fine sandy loam, very gravelly loamy sand	SM, GM	A-1, A-2, A-4	0	0-25	50-92	30-85	15-65	10-45	0-26	NP-7
	40-58	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-25	45-75	30-50	15-45	10-30	0-26	NP-7
	58-72	Very gravelly loamy sand, stratified very gravelly sand, very gravelly sandy loam	GW-GM, SW-SM, SW, SM, GM, GW	A-1	0	0-25	35-75	30-50	15-35	0-20	0-17	NP-2
804:												
Chippewa, stony	0-7	Silt loam	OL, ML	A-5, A-7	0-3	0-5	65-100	50-100	40-95	30-85	40-50	5-15
	7-14	Silt loam, channery loam, channery silty clay loam	SC-SM, ML, GM, CL	A-4	0-3	0-10	65-100	50-98	40-95	30-85	25-35	5-10
	14-16	Silt loam, channery loam, channery silty clay loam	CL, GM, ML, SC-SM	A-4	0-3	0-10	65-100	50-98	40-95	30-85	25-35	5-10
	16-42	Channery silt loam, channery fine sandy loam, very channery silty clay loam	SC, CL, CL-ML, GC	A-2, A-4	0-5	0-15	50-85	35-70	20-70	10-65	15-25	5-10
	42-72	Channery silt loam, channery fine sandy loam, very channery silty clay loam	CL-ML, GM, ML, SM	A-2, A-4	0-5	0-15	50-85	35-70	20-70	10-65	25-35	5-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
807A:												
Manheim, cool---	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
807B:												
Manheim, cool---	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
807C:												
Manheim, cool---	0-4	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	4-9	Silt loam, silty clay loam, channery loam	ML, OL	A-6, A-7	0	0-5	65-96	50-92	40-90	30-85	35-45	10-15
	9-19	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	19-29	Channery silt loam, silty clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	65-96	50-92	40-90	30-85	20-30	5-15
	29-41	Channery silt loam, very gravelly loam, silty clay loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
	41-72	Gravelly silty clay loam, very channery loam, silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-10	50-95	30-92	25-90	20-85	20-30	5-12
811B:												
Empeyville, warm	0-1	Highly decomposed plant material	PT	A-8	0-3	0-10	100	100	70-100	50-100	---	---
	1-3	Loam, gravelly sandy loam, silt loam	SM, GM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	20-30	1-6
	3-11	Channery loam, gravelly sandy loam, silt loam	GM, SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	15-30	NP-6
	11-17	Channery fine sandy loam, gravelly sandy loam, loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-70	15-30	NP-6
	17-20	Fine sandy loam, gravelly sandy loam, gravelly loam	GM, SM	A-2, A-4	0-3	0-10	65-92	50-80	30-75	15-60	15-30	NP-6
	20-31	Channery fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-2-4, A-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
	31-72	Cobbly fine sandy loam, channery loam, very gravelly sandy loam	GM, ML, SM	A-4, A-2-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
811C:												
Empeyville, warm	0-1	Highly decomposed plant material	PT	A-8	0-3	0-10	100	100	70-100	50-100	---	---
	1-3	Loam, gravelly sandy loam, silt loam	SM, ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	20-30	1-6
	3-11	Channery loam, gravelly sandy loam, silt loam	ML, GM, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-75	15-30	NP-6
	11-17	Channery fine sandy loam, gravelly sandy loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-85	15-70	15-30	NP-6
	17-20	Fine sandy loam, gravelly sandy loam, gravelly loam	SM, GM	A-2, A-4	0-3	0-10	65-92	50-80	30-75	15-60	15-30	NP-6
	20-31	Channery fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-2-4, A-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
	31-72	Cobbly fine sandy loam, channery loam, very gravelly sandy loam	SM, ML, GM	A-4, A-2-4	0-5	0-20	50-90	35-80	15-70	10-60	15-30	NP-6
813B:												
Gretor----------	0-9	Silt loam	ML, MH	A-7, A-6	0-1	0-5	85-95	75-92	60-90	40-80	35-55	10-20
	9-17	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	17-22	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	22-29	Channery loam, channery silt loam, clay loam	SC-SM, ML, CL-ML, SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	20-30	1-7
	29-33	Bedrock	---	---	0	0	---	---	---	---	---	---
813C:												
Gretor----------	0-9	Silt loam	ML, MH	A-7, A-6	0-1	0-5	85-95	75-92	60-90	40-80	35-55	10-20
	9-17	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	17-22	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	22-29	Channery loam, channery silt loam, clay loam	SC-SM, ML, CL-ML, SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	20-30	1-7
	29-33	Bedrock	---	---	0	0	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
814:												
Gretor----------	0-9	Silt loam	ML, MH	A-7, A-6	0-1	0-5	85-95	75-92	60-90	40-80	35-55	10-20
	9-17	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	17-22	Channery silt loam, channery loam, silty clay loam	ML, GM, SM	A-7, A-6	0-1	0-10	65-95	50-92	40-90	30-85	35-50	10-20
	22-29	Channery loam, channery silt loam, clay loam	SC-SM, ML, CL-ML, SM	A-4	0-1	0-15	65-95	50-92	40-90	30-80	20-30	1-7
	29-33	Bedrock	---	---	0	0	---	---	---	---	---	---
Torull----------	0-5	Silt loam, loam	ML	A-7, A-6	0	0	85-100	75-100	60-100	40-90	35-50	10-20
	5-7	Silt loam, loam	ML	A-7, A-6	0	0-5	85-100	75-100	60-100	40-90	35-50	10-20
	7-15	Silt loam, channery fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-4, A-2	0-1	0-15	65-100	50-100	35-95	20-75	20-30	2-7
	15-19	Bedrock	---	---	0	0	---	---	---	---	---	---
816B:												
Herkimer, cool--	0-8	Channery silt loam, gravelly silt loam, loam	GM, ML	A-6, A-7	0	0-10	65-98	50-96	45-90	30-80	27-44	6-12
	8-26	Channery silt loam, gravelly fine sandy loam, loam	GC-GM, ML, SM, GM	A-2, A-4	0	0-10	65-98	50-96	40-90	25-80	20-35	5-12
	26-35	Channery silt loam, gravelly fine sandy loam, loam	SM, ML, GM, GC-GM	A-2, A-4	0	0-15	45-85	30-70	25-70	15-65	20-35	5-12
	35-40	Channery silt loam, gravelly loam, very channery fine sandy loam	ML, GM, GC-GM, SC	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10
	40-72	Channery loam, gravelly silt loam, very channery fine sandy loam	GC, GC-GM, SC, SC-SM	A-2, A-4	0	0-15	45-85	30-70	20-70	10-65	15-25	2-10

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
818B:												
Kalurah, warm---	0-9	Silt loam, gravelly fine sandy loam, loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	CL-ML, ML, SC-SM, GM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	GM, ML, SC-SM, CL-ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, SM, SC-SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	SM, GM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	SC-SM, ML, GM, SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
818C:												
Kalurah, warm---	0-9	Silt loam, gravelly fine sandy loam, loam	SM, ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	GM, ML, SC-SM, CL-ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	SC-SM, ML, CL-ML, GM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, ML, SM, SC-SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	ML, GM, SM, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	SC-SM, SM, GM, ML	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
818D:												
Kalurah, warm---	0-9	Silt loam, gravelly fine sandy loam, loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	CL-ML, GM, ML, SC-SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	CL-ML, GM, SC-SM, ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, ML, SC-SM, SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	GM, SC-SM, ML, SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	GM, SM, ML, SC-SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
818E:												
Kalurah, warm---	0-9	Silt loam, gravelly fine sandy loam, loam	ML, SM	A-2, A-4	0-1	0-10	65-95	50-92	35-90	20-80	35-40	1-5
	9-18	Silt loam, gravelly sandy loam, gravelly fine sandy loam	ML, SC-SM, GM, CL-ML	A-2, A-4	0-1	0-10	65-95	50-92	35-90	15-75	15-20	1-5
	18-34	Loam, gravelly sandy loam, gravelly silt loam	ML, SC-SM, GM, CL-ML	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	34-49	Loam, gravelly sandy loam, gravelly silt loam	GM, ML, SM, SC-SM	A-2, A-4	0-3	0-10	65-95	50-92	30-90	15-75	15-20	1-5
	49-66	Loam, gravelly fine sandy loam, very gravelly sandy loam	SC-SM, ML, GM, SM	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5
	66-72	Gravelly silt loam, loam, very gravelly sandy loam	SC-SM, SM, GM, ML	A-1, A-2, A-4	0-5	0-15	50-95	35-92	15-85	10-65	15-20	1-5

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
819A:												
Kendaia, cool---	0-9	Silt loam, gravelly fine sandy loam, loam	SM, SC, ML, CL	A-4, A-6	0-1	0-5	70-95	55-92	40-90	25-80	30-40	5-15
	9-13	Silt loam, loam, gravelly fine sandy loam	CL-ML, CL, GC, SC	A-2, A-4, A-6	0-2	0-10	70-95	55-92	40-90	25-80	20-30	5-15
	13-32	Silt loam, loam, gravelly fine sandy loam	SC, GC, CL, CL-ML	A-2, A-4, A-6	0-3	0-10	70-95	55-92	35-90	20-80	20-30	5-15
	32-38	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
	38-72	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	CL, SC, GC, CL-ML	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
819B:												
Kendaia, cool---	0-9	Silt loam, gravelly fine sandy loam, loam	ML, SM, SC, CL	A-4, A-6	0-1	0-5	70-95	55-92	40-90	25-80	30-40	5-15
	9-13	Silt loam, loam, gravelly fine sandy loam	GC, SC, CL-ML, CL	A-2, A-4, A-6	0-2	0-10	70-95	55-92	40-90	25-80	20-30	5-15
	13-32	Silt loam, loam, gravelly fine sandy loam	CL-ML, GC, SC, CL	A-2, A-4, A-6	0-3	0-10	70-95	55-92	35-90	20-80	20-30	5-15
	32-38	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	CL, CL-ML, GC, SC	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15
	38-72	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam	SC, GC, CL-ML, CL	A-2, A-4, A-6	0-5	0-15	50-85	35-70	20-70	10-60	20-30	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
823A:												
Malone, warm----	0-9	Loam, silt loam, gravelly sandy loam	SC, ML, CL	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, SC, GC, CL-ML	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	GC, SC-SM, CL-ML, SC	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	SC-SM, GC, CL-ML, SC	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	CL-ML, GC, GC-GM, SC	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15
823B:												
Malone, warm----	0-9	Loam, silt loam, gravelly sandy loam	SC, ML, CL	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	CL-ML, SC, GC, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	SC, GC, CL-ML, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	CL-ML, GC, SC, SC-SM	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	SC, CL-ML, GC, GC-GM	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
823C:												
Malone, warm----	0-9	Loam, silt loam, gravelly sandy loam	CL, ML, SC	A-6, A-7	0-1	0-10	65-95	50-92	35-90	20-80	35-45	12-20
	9-14	Loam, gravelly sandy loam, gravelly fine sandy loam	SC-SM, CL-ML, GC, SC	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	14-18	Loam, gravelly sandy loam, channery fine sandy loam	SC, CL-ML, GC, SC-SM	A-2, A-4, A-6	0-3	0-10	65-95	50-92	35-85	20-70	15-25	5-15
	18-38	Loam, gravelly sandy loam, channery fine sandy loam	SC-SM, SC, GC, CL-ML	A-2, A-4, A-6	0-5	0-15	65-95	50-92	30-85	15-70	15-25	5-15
	38-74	Gravelly loam, fine sandy loam, very channery sandy loam	GC, SC, GC-GM, CL-ML	A-2, A-4, A-6	0-5	0-20	50-95	35-92	15-85	10-70	15-25	5-15
825B:												
Pinckney, warm--	0-8	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	SM, ML, GM, CL-ML	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	ML, GM, CL-ML, SM	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
825C:												
Pinckney, warm--	0-8	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	CL-ML, GM, ML, SM	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	GM, SM, ML, CL-ML	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6
825D:												
Pinckney, warm--	0-8	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-5	75-100	70-100	60-100	40-90	20-30	1-6
	8-15	Silt loam, loam, channery very fine sandy loam	SM, ML	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	15-22	Silt loam, loam, channery very fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	60-100	35-90	20-30	1-6
	22-25	Channery loam, silt loam, channery fine sandy loam	ML, SM	A-4	0	0-10	75-100	70-100	50-100	30-90	20-30	1-6
	25-43	Channery loam, channery fine sandy loam, loam	ML, GM, SM, CL-ML	A-2, A-4	0-3	0-15	65-92	50-85	35-75	20-60	15-25	1-6
	43-72	Channery loam, channery fine sandy loam, loam	CL-ML, GM, SM, ML	A-2, A-4	0-5	0-25	65-92	50-85	35-75	20-60	15-25	1-6

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
831:												
Tughill, stony, warm----------	0-8	Muck	PT	A-8	0-3	0-15	100	100	100	100	---	---
	8-12	Cobbly silt loam, fine sandy loam, gravelly sandy loam	OL, SM, GC, GM	A-2, A-4	0-3	0-15	65-98	50-95	30-90	15-80	20-30	3-9
	12-16	Cobbly silt loam, fine sandy loam, gravelly sandy loam	CL-ML, GM, GC, GC-GM	A-4, A-2	0-3	0-15	65-98	50-95	30-90	15-80	20-30	3-9
	16-30	Very cobbly silt loam, very gravelly fine sandy loam, very cobbly sandy loam	GM, SC-SM, GC, GC-GM	A-4, A-2	0-5	3-25	45-75	30-55	15-55	10-45	20-30	3-9
	30-72	Very cobbly silt loam, very gravelly fine sandy loam, very cobbly sandy loam	GM, GC-GM, GC, SC-SM	A-4, A-1, A-2	0-5	5-25	45-75	30-55	15-55	10-45	20-30	3-9
833A:												
Westbury, warm--	0-1	Slightly decomposed plant material	PT	A-8	0-5	0-5	100	100	60-100	30-100	---	---
	1-3	Highly decomposed plant material	PT	A-8	0-5	0-5	65-100	50-100	35-100	20-100	---	---
	3-8	Silt loam, gravelly sandy loam, gravelly loam	ML, SM	A-2-4, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-41	NP-7
	8-18	Very fine sandy loam, silt loam, gravelly loam, sandy loam	SM, GM, ML	A-2, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-32	NP-7
	18-20	Fine sandy loam, loam, gravelly sandy loam, gravelly loamy sand	SM, GM	A-2, A-4	0-5	0-15	65-95	50-92	30-90	15-70	0-30	NP-7
	20-40	Gravelly fine sandy loam, very gravelly sandy loam, gravelly loam, very gravelly very fine sandy loam	SM, GW-GM, GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7
	40-72	Gravelly very fine sandy loam, very gravelly sandy loam, gravelly loam	SM, GW-GM, GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
833B:												
Westbury, warm--	0-1	Slightly decomposed plant material	PT	A-8	0-5	0-5	100	100	60-100	30-100	---	---
	1-3	Highly decomposed plant material	PT	A-8	0-5	0-5	65-100	50-100	35-100	20-100	---	---
	3-8	Silt loam, gravelly sandy loam, gravelly loam	ML, SM	A-2-4, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-41	NP-7
	8-18	Very fine sandy loam, silt loam, gravelly loam, sandy loam	SM, GM, ML	A-2, A-4	0-5	0-10	65-95	50-92	30-90	15-70	0-32	NP-7
	18-20	Fine sandy loam, loam, gravelly sandy loam, gravelly loamy sand	SM, GM	A-2, A-4	0-5	0-15	65-95	50-92	30-90	15-70	0-30	NP-7
	20-40	Gravelly fine sandy loam, very gravelly sandy loam, gravelly loam, very gravelly very fine sandy loam	SM, GM, GW-GM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7
	40-72	Gravelly very fine sandy loam, very gravelly sandy loam, gravelly loam	GW-GM, GM, SM	A-2-4, A-4	0-8	0-25	45-90	30-75	15-65	10-50	0-26	NP-7

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
838B:												
Worth, warm-----	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	GM, SM, SC	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SM, SC, GM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	GM, SC, SC-SM, SM	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
838C:												
Worth, warm-----	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	SM, GM, ML	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	GM, SC, SM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC, SM, SC-SM, GM	A-2-4, A-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	SC-SM, GM, SC, SM	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
838D:												
Worth, warm-----	0-8	Loam, gravelly silt loam, channery sandy loam	ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	GM, SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	SC, GM, SM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC, SM, SC-SM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	SC, SC-SM, SM, GM	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
838E:												
Worth, warm-----	0-8	Loam, gravelly silt loam, channery sandy loam	SM, ML	A-2, A-4	0-3	0-10	65-92	50-85	30-75	20-65	0-46	NP-12
	8-18	Gravelly fine sandy loam, channery loam, loam	SM, GM, ML	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	18-22	Gravelly fine sandy loam, channery loam, loam	GM, ML, SM	A-2, A-4	0-3	0-10	65-92	50-85	35-75	20-60	0-29	NP-12
	22-27	Gravelly fine sandy loam, loam, gravelly loamy sand	SC, SM, GM	A-2-4, A-4	0-3	0-10	50-92	35-85	20-75	10-60	0-29	NP-12
	27-41	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	SC-SM, SM, SC, GM	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	41-59	Channery fine sandy loam, channery loam, very gravelly fine sandy loam	GM, SC-SM, SM, SC	A-4, A-2-4	0-5	0-20	50-85	35-65	20-55	15-45	0-29	NP-12
	59-72	Very cobbly coarse sandy loam, channery loam, gravelly sandy loam	SC-SM, SM, GM, SC	A-1, A-4, A-2-4	0-8	0-30	50-85	35-65	15-55	10-45	0-29	NP-12
842B:												
Farmington, cool	0-4	Silt loam, fine sandy loam, channery loam	CL, ML, SC, SM	A-2, A-4, A-6	0-1	0-5	65-95	50-92	35-90	20-80	25-49	6-18
	4-8	Silt loam, loam, gravelly fine sandy loam	CL, GC	A-2, A-4, A-6	0-1	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	8-14	Silt loam, gravelly loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-2	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	14-18	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
843D:												
Farmington, cool	0-4	Silt loam, fine sandy loam, channery loam	SC, ML, CL, SM	A-2, A-4, A-6	0-1	0-5	65-95	50-92	35-90	20-80	25-49	6-18
	4-8	Silt loam, loam, gravelly fine sandy loam	CL, GC	A-2, A-4, A-6	0-1	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	8-14	Silt loam, gravelly loam, gravelly fine sandy loam	GC, CL	A-2, A-4, A-6	0-2	0-10	65-95	50-92	35-90	20-80	20-36	6-19
	14-18	Bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
845A:												
Galway, cool----	0-5	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	SM, ML	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
845B:												
Galway, cool----	0-5	Silt loam, channery loam	SM, ML	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
845C:												
Galway, cool----	0-5	Silt loam, channery loam	ML, SM	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	5-8	Silt loam, channery loam	SM, ML	A-6, A-7	0-1	0-15	65-100	50-100	40-100	30-90	22-42	3-12
	8-17	Silt loam, gravelly fine sandy loam, gravelly loam	ML, GM	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	17-26	Silt loam, gravelly fine sandy loam, gravelly loam	GM, ML	A-2, A-4, A-6	0-3	0-8	65-98	50-95	35-90	20-80	0-31	NP-12
	26-30	Bedrock	---	---	---	---	---	---	---	---	---	---
858A:												
Chenango, red substratum-----	0-7	Gravelly fine sandy loam, very gravelly sandy loam, loam	GM, ML, SM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-20	Gravelly fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	20-33	Very gravelly sandy loam, gravelly loam, gravelly fine sandy loam	SM, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	33-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GW, GP, GM, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
858B:												
Chenango, red substratum-----	0-7	Gravelly fine sandy loam, very gravelly sandy loam, loam	SM, GM, ML	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-20	Gravelly fine sandy loam, gravelly loam, very gravelly sandy loam	SM, GM	A-4, A-1, A-2	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	20-33	Very gravelly sandy loam, gravelly loam, gravelly fine sandy loam	SM, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	33-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	SM, GW, GP, GM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP
858C:												
Chenango, red substratum-----	0-7	Gravelly fine sandy loam, very gravelly sandy loam, loam	GM, ML, SM	A-1, A-4, A-2	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-20	Gravelly fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	20-33	Very gravelly sandy loam, gravelly loam, gravelly fine sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	33-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GP, GM, GW, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
858D: Chenango, red substratum-----	0-7	Gravelly fine sandy loam, very gravelly sandy loam, loam	ML, SM, GM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-20	Gravelly fine sandy loam, gravelly loam, very gravelly sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	20-33	Very gravelly sandy loam, gravelly loam, gravelly fine sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	33-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GP, SM, GW, GM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP
858E: Chenango, red substratum-----	0-7	Gravelly fine sandy loam, very gravelly sandy loam, loam	ML, SM, GM	A-1, A-2, A-4	0	0-15	50-92	35-85	20-80	15-70	15-35	NP-10
	7-20	Gravelly fine sandy loam, gravelly loam, very gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	20-33	Very gravelly sandy loam, gravelly loam, gravelly fine sandy loam	GM, SM	A-1, A-2, A-4	0	0-15	45-90	30-75	15-70	10-65	15-40	NP-10
	33-72	Extremely gravelly sand, stratified very gravelly coarse sand, gravelly loamy fine sand	GM, GP, GW, SM	A-1	0	0-25	35-75	20-60	10-45	0-20	---	NP

Table 20.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
982:												
Wallkill--------	0-8	Silt loam	SM, OL, ML	A-5, A-7	0	0	92-100	85-100	60-100	40-90	40-50	5-15
	8-12	Silt loam, gravelly loam, mucky silt loam	CL, SC-SM, CL-ML, SC	A-4	0	0	85-100	70-100	60-100	40-90	15-25	5-10
	12-22	Silty clay loam, gravelly loam, mucky silt loam	SC, CL-ML, SC-SM, CL	A-4	0	0	85-100	70-100	60-100	40-90	15-25	5-10
	22-34	Muck, mucky peat	OL, PT	A-8	0	0	100	100	90-100	70-100	---	---
	34-56	Muck, mucky peat	PT	A-8	0	0	100	100	90-100	70-100	---	---
	56-72	Gravelly sand, silt loam, silty clay loam	SM, SP-SM, CL, ML	A-1, A-2, A-4, A-6	0	0-10	80-100	70-100	35-100	5-95	0-44	NP-25
W:												
Water.												

Table 21.--Physical and Chemical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
1:													
Udifluvents,													
frequently flooded	0-4	15-90	10-80	0-27	1.10-1.50	0.06-20	0.03-0.15	0.0-2.9	0.0-5.0	.24	.32	---	4.5-7.3
	4-12	15-90	10-80	0-27	1.10-1.50	0.06-20	0.03-0.15	0.0-2.9	0.0-3.0	.24	.32		4.5-7.3
	12-37	0-100	0-80	0-27	1.20-1.70	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	---	---		4.5-7.3
	37-72	0-100	0-80	0-27	1.20-1.70	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	---	---		4.5-7.3
Fluvaquents,													
frequently flooded,													
warm---------------	0-7	15-50	50-80	0-30	1.10-1.50	0.2-20	0.06-0.18	0.0-2.9	1.0-12	.32	.37	---	5.1-7.3
	7-14	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.32	.37		5.1-8.4
	14-45	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.32	.37		5.1-8.4
	45-72	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.28	.37		5.1-8.4
2:													
Hamlin--------------	0-8	0-60	30-80	8-18	1.15-1.40	0.6-2	0.18-0.21	0.0-2.9	2.0-6.0	.43	.43	5	5.1-7.3
	8-17	0-60	30-80	5-18	1.15-1.45	0.6-2	0.17-0.19	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	17-31	0-60	30-80	5-18	1.15-1.45	0.6-2	0.17-0.19	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	31-72	0-60	10-100	3-10	1.25-1.55	0.6-2	0.17-0.19	0.0-2.9	0.0-1.0	.49	.49		5.6-7.8
4:													
Wakeville,													
occasionally													
flooded------------	0-10	10-75	15-80	8-18	1.15-1.40	0.6-2	0.18-0.21	0.0-2.9	2.0-6.0	.43	.43	5	5.6-7.3
	10-15	10-75	15-80	5-18	1.15-1.45	0.6-2	0.18-0.19	0.0-2.9	0.0-2.0	.49	.49		5.6-7.3
	15-35	10-75	10-80	5-18	1.15-1.45	0.6-2	0.18-0.19	0.0-2.9	0.0-2.0	.49	.49		5.6-7.3
	35-72	10-90	5-80	1-18	1.25-1.55	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.49	.64		6.1-8.4
7:													
Wayland-------------	0-9	0-14	40-80	15-35	1.05-1.40	0.2-2	0.17-0.22	0.0-2.9	3.0-10	.43	.43	5	5.1-7.3
	9-28	0-14	40-80	18-35	1.10-1.60	0.06-2	0.16-0.20	0.0-2.9	0.0-3.0	.43	.43		5.1-7.3
	28-45	0-60	40-80	15-35	1.25-1.55	0.06-2	0.08-0.19	0.0-2.9	0.0-2.0	.43	.43		5.1-8.4
	45-72	0-80	40-80	15-35	1.25-1.55	0.06-2	0.08-0.19	0.0-2.9	0.0-2.0	.43	.43		5.1-8.4
9:													
Wenonah-------------	0-8	20-85	15-80	5-18	1.15-1.35	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.28	4	4.5-7.3
	8-17	20-85	15-60	3-18	1.15-1.45	0.6-2	0.11-0.19	0.0-2.9	0.5-3.0	.32	.37		4.5-7.3
	17-35	20-85	15-55	3-18	1.15-1.45	0.6-2	0.11-0.19	0.0-2.9	0.0-3.0	.32	.37		4.5-7.3
	35-45	40-100	0-50	3-15	1.20-1.55	0.6-6	0.03-0.18	0.0-2.9	0.0-2.0	.20	.24		4.5-7.3
	45-55	40-100	0-50	1-15	1.20-1.55	0.6-6	0.03-0.18	0.0-2.9	0.0-1.0	.20	.24		4.5-7.3
	55-72	40-100	0-50	1-15	1.20-1.55	0.6-6	0.03-0.18	0.0-2.9	0.0-1.0	.17	.20		4.5-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
10:													
Otego---------------	0-11	15-70	20-80	8-18	1.15-1.40	0.6-2	0.15-0.18	0.0-2.9	2.0-8.0	.28	.28	5	5.1-6.5
	11-20	15-70	20-80	5-18	1.15-1.40	0.6-2	0.17-0.19	0.0-2.9	0.0-2.0	.32	.32		5.1-6.5
	20-31	15-70	20-80	5-18	1.15-1.40	0.6-2	0.17-0.19	0.0-2.9	0.0-1.0	.32	.32		5.1-6.5
	31-72	15-90	10-80	5-18	1.25-1.50	0.6-6	0.05-0.19	0.0-2.9	0.0-1.0	.17	.20		5.1-7.2
12B:													
Herkimer------------	0-8	15-52	28-80	10-18	1.10-1.40	0.6-2	0.10-0.16	0.0-2.9	3.0-7.0	.24	.32	4	5.1-7.3
	8-26	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	26-35	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	35-40	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
	40-72	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
12C:													
Herkimer------------	0-8	15-52	28-80	10-18	1.10-1.40	0.6-2	0.10-0.16	0.0-2.9	3.0-7.0	.24	.32	4	5.1-7.3
	8-26	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	26-35	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	35-40	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
	40-72	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
13:													
Fluvaquents, frequently flooded, cool---------------	0-7	15-50	50-80	0-30	1.10-1.50	0.2-20	0.06-0.18	0.0-2.9	1.0-12	.32	.37	---	5.1-7.3
	7-14	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-3.0	.32	.37		5.1-8.4
	14-45	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.32	.37		5.1-8.4
	45-72	0-85	0-80	0-30	1.20-1.60	0.06-20	0.03-0.16	0.0-2.9	0.0-1.0	.32	.37		5.1-8.4
Borosaprists--------	0-10	---	---	0-1	0.10-0.60	0.2-6	0.35-0.45	---	55-100	---	---	---	3.5-6.5
	10-20	---	---	0-1	0.10-0.60	0.2-6	0.35-0.45	---	55-100	---	---		3.5-6.5
	20-51	---	---	0-10	0.10-0.60	0.2-6	0.35-0.45	---	55-100	---	---		3.5-6.5
	51-72	0-91	0-80	0-50	1.30-1.75	0.2-6	0.03-0.12	0.0-2.9	0.0-1.0	.15	.15		4.5-8.4
20:													
Pits sand and gravel-------------	0-7	30-100	0-49	1-12	1.45-1.65	6-20	0.02-0.09	0.0-2.9	0.0-1.0	.17	.24	5	3.5-7.3
	7-72	50-100	0-49	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.0	.17	.20		3.5-7.8
21:													
Udorthents, refuse substratum---------	0-6	0-85	0-49	0-20	1.20-1.80	0.06-0.2	0.05-0.12	0.0-2.9	0.0-5.0	.17	.24	---	4.5-8.0
	6-72	44-100	0-49	0-15	1.20-2.00	0.0000-20	0.01-0.12	0.0-2.9	0.0-25	---	---		4.5-8.4
22:													
Udorthents, smoothed	0-6	0-85	0-49	0-20	1.20-1.80	0.6-20	0.05-0.13	0.0-2.9	0.0-5.0	.17	.24	---	4.5-7.3
	6-72	0-85	0-73	0-45	1.30-1.90	0.6-20	0.04-0.13	0.0-2.9	0.0-1.0	.17	.24		5.1-7.8

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
23:													
Urban land----------	0-6	---	---	---	---	0.0000-0.2	---	---	---	---	---	---	---
24A:													
Howard--------------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
24B:													
Howard--------------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
24C:													
Howard--------------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
25:													
Pits, quarry--------	0-60	---	---	---	---	0.0000-0.2	---	---	---	---	---	---	---
27A:													
Nicholville---------	0-4	0-60	15-80	2-18	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	2.0-6.0	.49	.49	4	3.6-6.0
	4-10	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	10-20	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	20-22	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-1.0	.64	.64		4.5-6.0
	22-36	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-1.0	.64	.64		4.5-6.0
	36-72	0-100	5-80	2-18	1.45-1.65	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.49	.55		4.5-7.2
27B:													
Nicholville---------	0-4	0-60	15-80	2-18	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	2.0-6.0	.49	.49	4	3.6-6.0
	4-10	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	10-20	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	20-22	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-1.0	.64	.64		4.5-6.0
	22-36	0-80	15-80	2-18	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	0.0-1.0	.64	.64		4.5-6.0
	36-72	0-100	5-80	2-18	1.45-1.65	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.49	.55		4.5-7.2

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
28A:													
Phelps--------------	0-7	15-70	15-80	10-26	1.10-1.40	0.6-2	0.16-0.22	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-70	15-80	18-26	1.25-1.55	0.6-2	0.08-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	10-15	15-52	28-70	18-35	1.25-1.55	0.6-2	0.09-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	15-25	15-52	28-70	10-35	1.25-1.55	0.6-2	0.07-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	25-34	70-100	0-29	1-5	1.45-1.65	2-20	0.04-0.10	0.0-2.9	0.0-1.0	.17	.24		7.4-8.4
	34-72	70-100	0-29	1-5	1.45-1.65	2-20	0.04-0.10	0.0-2.9	0.0-1.0	.17	.24		7.4-8.4
28B:													
Phelps--------------	0-7	15-70	15-80	10-26	1.10-1.40	0.6-2	0.16-0.22	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-70	15-80	18-26	1.25-1.55	0.6-2	0.08-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	10-15	15-52	28-70	18-35	1.25-1.55	0.6-2	0.09-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	15-25	15-52	28-70	10-35	1.25-1.55	0.6-2	0.07-0.13	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	25-34	70-100	0-29	1-5	1.45-1.65	2-20	0.04-0.10	0.0-2.9	0.0-1.0	.17	.24		7.4-8.4
	34-72	70-100	0-29	1-5	1.45-1.65	2-20	0.04-0.10	0.0-2.9	0.0-1.0	.17	.24		7.4-8.4
30:													
Fredon, somewhat poorly drained-----	0-7	15-70	10-80	5-20	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	2.0-8.0	.24	.32	3	5.6-7.3
	7-15	15-70	10-80	7-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.24	.32		5.6-7.3
	15-24	15-75	10-80	7-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.0-1.0	.24	.32		5.6-7.3
	24-72	70-100	0-29	0-10	1.40-1.60	6-20	0.02-0.10	0.0-2.9	0.0-1.0	.17	.24		5.6-8.4
Fredon, poorly drained------------	0-7	15-70	10-80	5-20	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	2.0-8.0	.24	.32	3	5.6-7.3
	7-15	15-70	10-80	7-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.5-1.0	.24	.32		5.6-7.3
	15-24	15-75	10-80	7-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	0.0-1.0	.24	.32		5.6-7.3
	24-72	70-100	0-29	0-10	1.40-1.60	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.17	.24		5.6-8.4
31:													
Halsey--------------	0-7	15-80	10-80	7-25	1.10-1.30	0.6-2	0.14-0.24	0.0-2.9	4.0-12	.20	.28	3	5.6-7.3
	7-21	15-80	10-80	7-25	1.20-1.40	0.6-6	0.12-0.18	0.0-2.9	0.0-3.0	.20	.28		5.6-7.3
	21-45	70-100	0-29	0-10	1.40-1.60	6-20	0.02-0.07	0.0-2.9	0.0-1.0	.17	.24		6.1-8.4
	45-72	60-100	0-49	0-10	1.40-1.60	6-20	0.02-0.07	0.0-2.9	0.0-1.0	.17	.24		6.1-8.4
33A:													
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
Urban land----------	0-6	---	---	---	---	---	---	---	---	---	---	---	---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
33B:													
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
Urban land----------	0-6	---	---	---	---	---	---	---	---	---	---	---	---
34D:													
Howard--------------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
34E:													
Howard--------------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-1.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
35A:													
Unadilla------------	0-7	15-75	10-80	2-18	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-7.0	.49	.49	4	4.5-6.0
	7-12	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	12-21	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	21-72	15-100	0-80	0-18	1.45-1.65	0.6-2	0.01-0.10	0.0-2.9	0.0-1.0	.49	.49		5.1-7.8

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
35B:													
Unadilla------------	0-7	15-75	10-80	2-18	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-7.0	.49	.49	4	4.5-6.0
	7-12	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	12-21	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	21-72	15-100	0-80	0-18	1.45-1.65	0.6-2	0.01-0.10	0.0-2.9	0.0-1.0	.49	.49		5.1-7.8
35C:													
Unadilla------------	0-7	15-75	10-80	2-18	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-7.0	.49	.49	4	4.5-6.0
	7-12	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	12-21	15-75	10-80	1-18	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.0
	21-72	15-100	0-80	0-18	1.45-1.65	0.6-2	0.01-0.10	0.0-2.9	0.0-1.0	.49	.49		5.1-7.8
36B:													
Salmon--------------	0-7	0-70	10-80	2-18	0.90-1.50	0.6-2	0.13-0.30	0.0-2.9	2.0-6.0	.49	.49	4	3.6-6.0
	7-12	0-70	10-80	2-18	1.10-1.50	0.6-2	0.12-0.26	0.0-2.9	0.0-3.0	.64	.64		3.6-6.0
	12-27	0-70	10-80	2-18	1.10-1.50	0.6-2	0.12-0.26	0.0-2.9	0.0-3.0	.64	.64		3.6-6.0
	27-45	0-70	10-80	2-18	1.45-1.65	0.6-2	0.12-0.26	0.0-2.9	0.0-1.0	.64	.64		5.1-6.5
	45-72	10-80	0-80	2-18	1.45-1.65	0.6-2	0.09-0.26	0.0-2.9	0.0-1.0	.24	.28		5.1-6.5
38A:													
Chenango------------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	4.5-6.5
	7-13	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	13-27	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	27-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
38B:													
Chenango------------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	4.5-6.5
	7-13	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	13-27	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	27-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
38C:													
Chenango------------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	4.5-6.5
	7-13	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	13-27	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	27-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
38D:													
Chenango------------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	4.5-6.5
	7-13	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	13-27	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	27-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
38E:													
Chenango------------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.24	.32	3	4.5-6.5
	7-13	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	13-27	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	27-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
39A:													
Knickerbocker-------	0-9	44-85	5-49	5-12	1.10-1.40	2-6	0.11-0.17	0.0-2.9	2.0-6.0	.20	.24	3	4.5-6.0
	9-16	44-85	5-49	5-12	1.25-1.55	2-6	0.11-0.17	0.0-2.9	0.0-2.0	.20	.24		4.5-6.0
	16-30	70-91	0-29	2-8	1.45-1.65	6-100	0.06-0.08	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	30-72	70-100	0-29	0-8	1.45-1.65	6-100	0.02-0.08	0.0-2.9	0.0-0.5	.10	.15		4.5-6.0
39B:													
Knickerbocker-------	0-9	44-85	5-49	5-12	1.10-1.40	2-6	0.11-0.17	0.0-2.9	2.0-6.0	.20	.24	3	4.5-6.0
	9-16	44-85	5-49	5-12	1.25-1.55	2-6	0.11-0.17	0.0-2.9	0.0-2.0	.20	.24		4.5-6.0
	16-30	70-91	0-29	2-8	1.45-1.65	6-100	0.06-0.08	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	30-72	70-100	0-29	0-8	1.45-1.65	6-100	0.02-0.08	0.0-2.9	0.0-0.5	.10	.15		4.5-6.0
39C:													
Knickerbocker-------	0-9	44-85	5-49	5-12	1.10-1.40	2-6	0.11-0.17	0.0-2.9	2.0-6.0	.20	.24	3	4.5-6.0
	9-16	44-85	5-49	5-12	1.25-1.55	2-6	0.11-0.17	0.0-2.9	0.0-2.0	.20	.24		4.5-6.0
	16-30	70-91	0-29	2-8	1.45-1.65	6-100	0.06-0.08	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	30-72	70-100	0-29	0-8	1.45-1.65	6-100	0.02-0.08	0.0-2.9	0.0-0.5	.10	.15		4.5-6.0
41:													
Niagara-------------	0-6	15-60	20-80	5-20	1.20-1.50	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.43	.43	4	5.1-7.3
	6-11	15-60	20-80	5-20	1.20-1.50	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.43	.43		5.1-7.3
	11-13	15-60	20-80	10-25	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	13-21	15-60	20-80	18-35	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-26	15-90	10-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
	26-32	15-90	10-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
	32-72	15-95	5-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
42:													
Castile-------------	0-8	15-75	10-70	6-18	1.10-1.40	0.6-6	0.09-0.16	0.0-2.9	3.0-7.0	.20	.28	4	4.5-6.0
	8-19	20-75	10-70	4-15	1.25-1.55	2-6	0.05-0.13	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	19-28	20-75	5-70	4-15	1.25-1.55	2-6	0.05-0.13	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	28-72	24-91	0-50	1-10	1.45-1.65	6-100	0.01-0.10	0.0-2.9	0.0-1.0	.17	.49		5.1-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
43:													
Jebavy--------------	0-2	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	35-100	---	---	2	3.6-5.5
	2-10	86-100	0-14	0-10	1.20-1.50	6-20	0.07-0.09	0.0-2.9	0.0-2.0	.10	.10		3.6-5.5
	10-12	86-100	0-14	0-10	1.30-1.70	6-20	0.06-0.08	0.0-2.9	1.0-5.0	.15	.15		3.6-5.5
	12-14	86-100	0-14	0-10	1.70-2.00	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.15	.15		3.6-5.5
	14-24	86-100	0-14	0-10	1.60-2.00	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.15	.15		3.6-5.5
	24-32	86-100	0-14	0-10	1.50-1.90	6-20	0.02-0.06	0.0-2.9	0.0-1.0	.15	.15		3.6-5.5
	32-72	86-100	0-14	0-10	1.50-1.70	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.15	.15		5.1-6.5
46A:													
Colosse-------------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.50	0.0-2.9	55-100	---	---	4	3.5-5.5
	1-2	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	3.0-8.0	.17	.24		3.5-5.5
	2-6	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	2.0-6.0	.17	.24		4.5-5.5
	6-15	44-85	0-49	0-10	1.25-1.55	2-6	0.06-0.11	0.0-2.9	1.0-3.0	.17	.28		4.5-5.5
	15-29	44-91	0-49	0-6	1.25-1.55	2-6	0.06-0.11	0.0-2.9	0.0-1.0	.17	.28		4.5-5.5
	29-39	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.15	.20		5.1-6.0
	39-82	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.17		5.1-6.0
46B:													
Colosse-------------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.50	0.0-2.9	55-100	---	---	4	3.5-5.5
	1-2	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	3.0-8.0	.17	.24		3.5-5.5
	2-6	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	2.0-6.0	.17	.24		4.5-5.5
	6-15	44-85	0-49	0-10	1.25-1.55	2-6	0.06-0.11	0.0-2.9	1.0-3.0	.17	.28		4.5-5.5
	15-29	44-91	0-49	0-6	1.25-1.55	2-6	0.06-0.11	0.0-2.9	0.0-1.0	.17	.28		4.5-5.5
	29-39	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.15	.20		5.1-6.0
	39-82	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.17		5.1-6.0
46C:													
Colosse-------------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.50	0.0-2.9	55-100	---	---	4	3.5-5.5
	1-2	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	3.0-8.0	.17	.24		3.5-5.5
	2-6	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	2.0-6.0	.17	.24		4.5-5.5
	6-15	44-85	0-49	0-10	1.25-1.55	2-6	0.06-0.11	0.0-2.9	1.0-3.0	.17	.28		4.5-5.5
	15-29	44-91	0-49	0-6	1.25-1.55	2-6	0.06-0.11	0.0-2.9	0.0-1.0	.17	.28		4.5-5.5
	29-39	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.15	.20		5.1-6.0
	39-82	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.17		5.1-6.0
46D:													
Colosse-------------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.50	0.0-2.9	55-100	---	---	4	3.5-5.5
	1-2	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	3.0-8.0	.17	.24		3.5-5.5
	2-6	24-85	0-50	1-10	1.10-1.40	2-6	0.09-0.12	0.0-2.9	2.0-6.0	.17	.24		4.5-5.5
	6-15	44-85	0-49	0-10	1.25-1.55	2-6	0.06-0.11	0.0-2.9	1.0-3.0	.17	.28		4.5-5.5
	15-29	44-91	0-49	0-6	1.25-1.55	2-6	0.06-0.11	0.0-2.9	0.0-1.0	.17	.28		4.5-5.5
	29-39	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.15	.20		5.1-6.0
	39-82	70-100	0-29	0-3	1.45-1.65	6-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.17		5.1-6.0

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
47A:													
Scio----------------	0-8	5-70	10-80	2-15	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-8.0	.49	.49	4	3.5-5.5
	8-12	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		3.5-5.5
	12-20	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		3.5-5.5
	20-32	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		4.5-6.0
	32-72	5-100	0-80	0-15	1.45-1.65	0.06-20	0.02-0.19	0.0-2.9	0.0-1.0	.49	.49		5.1-7.8
47B:													
Scio----------------	0-8	5-70	10-80	2-15	1.20-1.50	0.6-2	0.18-0.21	0.0-2.9	2.0-8.0	.49	.49	4	3.5-5.5
	8-12	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		3.5-5.5
	12-20	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		3.5-5.5
	20-32	5-70	10-80	2-15	1.20-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-2.0	.49	.49		4.5-6.0
	32-72	5-100	0-80	0-15	1.45-1.65	0.06-20	0.02-0.19	0.0-2.9	0.0-1.0	.49	.49		5.1-7.8
50:													
Wareham-------------	0-2	---	---	0-3	0.10-0.40	0.6-20	0.20-0.60	0.0-2.9	35-100	---	---	4	3.6-5.5
	2-9	70-100	0-29	1-3	1.00-1.20	6-20	0.06-0.15	0.0-2.9	2.0-5.0	.24	.24		3.6-5.5
	9-13	70-100	0-29	0-3	1.30-1.50	6-20	0.03-0.13	0.0-2.9	0.0-2.0	.17	.20		3.6-5.5
	13-28	70-100	0-29	0-3	1.30-1.50	6-20	0.03-0.13	0.0-2.9	0.0-1.0	.17	.20		3.6-5.5
	28-72	70-100	0-29	0-2	1.40-1.60	6-20	0.01-0.10	0.0-2.9	0.0-0.5	.17	.20		3.6-5.5
54D:													
Colton--------------	0-4	44-90	0-49	1-7	1.10-1.40	6-20	0.09-0.12	0.0-2.9	3.0-8.0	.17	.24	4	3.6-6.0
	4-7	70-100	0-29	0-5	1.25-1.55	6-20	0.02-0.05	0.0-2.9	1.0-6.0	.17	.24		3.6-6.0
	7-16	70-100	0-29	0-5	1.25-1.55	6-20	0.02-0.05	0.0-2.9	1.0-4.0	.17	.24		3.6-6.0
	16-24	70-100	0-29	0-5	1.25-1.55	6-20	0.02-0.05	0.0-2.9	0.0-1.0	.17	.24		4.5-6.0
	24-72	70-100	0-29	0-3	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.15	.20		4.5-6.5
55A:													
Adams---------------	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.5-6.0
	1-4	70-100	0-29	0-5	1.00-1.30	6-20	0.06-0.12	0.0-2.9	0.0-3.0	.15	.15		3.6-6.0
	4-12	70-100	0-29	0-5	1.10-1.45	6-20	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	12-17	70-100	0-29	0-5	1.10-1.45	6-100	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	17-25	86-100	0-14	0-5	1.10-1.45	20-100	0.03-0.10	0.0-2.9	0.0-1.0	.15	.15		4.5-6.0
	25-72	86-100	0-14	0-5	1.20-1.50	20-100	0.03-0.04	0.0-2.9	0.0-0.5	.15	.15		4.5-6.5
55B:													
Adams---------------	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.5-6.0
	1-4	70-100	0-29	0-5	1.00-1.30	6-20	0.06-0.12	0.0-2.9	0.0-3.0	.15	.15		3.6-6.0
	4-12	70-100	0-29	0-5	1.10-1.45	6-20	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	12-17	70-100	0-29	0-5	1.10-1.45	6-100	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	17-25	86-100	0-14	0-5	1.10-1.45	20-100	0.03-0.10	0.0-2.9	0.0-1.0	.15	.15		4.5-6.0
	25-72	86-100	0-14	0-5	1.20-1.50	20-100	0.03-0.04	0.0-2.9	0.0-0.5	.15	.15		4.5-6.5

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
55C:													
Adams	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.5-6.0
	1-4	70-100	0-29	0-5	1.00-1.30	6-20	0.06-0.12	0.0-2.9	0.0-3.0	.15	.15		3.6-6.0
	4-12	70-100	0-29	0-5	1.10-1.45	6-20	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	12-17	70-100	0-29	0-5	1.10-1.45	6-100	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	17-25	86-100	0-14	0-5	1.10-1.45	20-100	0.03-0.10	0.0-2.9	0.0-1.0	.15	.15		4.5-6.0
	25-72	86-100	0-14	0-5	1.20-1.50	20-100	0.03-0.04	0.0-2.9	0.0-0.5	.15	.15		4.5-6.5
55D:													
Adams	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.5-6.0
	1-4	70-100	0-29	0-5	1.00-1.30	6-20	0.06-0.12	0.0-2.9	0.0-3.0	.15	.15		3.6-6.0
	4-12	70-100	0-29	0-5	1.10-1.45	6-20	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	12-17	70-100	0-29	0-5	1.10-1.45	6-100	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	17-25	86-100	0-14	0-5	1.10-1.45	20-100	0.03-0.10	0.0-2.9	0.0-1.0	.15	.15		4.5-6.0
	25-72	86-100	0-14	0-5	1.20-1.50	20-100	0.03-0.04	0.0-2.9	0.0-0.5	.15	.15		4.5-6.5
55E:													
Adams	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.5-6.0
	1-4	70-100	0-29	0-5	1.00-1.30	6-20	0.06-0.12	0.0-2.9	0.0-3.0	.15	.15		3.6-6.0
	4-12	70-100	0-29	0-5	1.10-1.45	6-20	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	12-17	70-100	0-29	0-5	1.10-1.45	6-100	0.03-0.10	0.0-2.9	0.0-3.0	.17	.17		4.5-6.0
	17-25	86-100	0-14	0-5	1.10-1.45	20-100	0.03-0.10	0.0-2.9	0.0-1.0	.15	.15		4.5-6.0
	25-72	86-100	0-14	0-5	1.20-1.50	20-100	0.03-0.04	0.0-2.9	0.0-0.5	.15	.15		4.5-6.5
56B:													
Becket, very bouldery	0-1	---	---	0-8	0.10-0.50	0.6-2	0.16-0.60	0.0-2.9	15-100	---	---	3	3.6-6.5
	1-3	44-85	5-49	2-8	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-6.0	.28	.32		3.6-6.5
	3-16	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.6-6.5
	16-24	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	24-34	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	34-41	44-85	5-49	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
	41-72	44-90	0-40	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
Skerry, very bouldery	0-2	---	---	0-8	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	15-100	---	---	3	3.5-6.5
	2-6	44-85	5-49	2-8	0.60-1.30	0.6-2	0.06-0.23	0.0-2.9	2.0-20	.28	.32		3.5-6.5
	6-9	44-85	5-49	2-8	0.60-1.30	0.6-2	0.06-0.23	0.0-2.9	0.0-2.0	.28	.32		3.5-6.5
	9-13	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-4.0	.28	.32		3.5-6.5
	13-27	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.5-6.5
	27-72	44-90	0-40	0-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
56C:													
Becket, very bouldery-----------	0-1	---	---	0-8	0.10-0.50	0.6-2	0.16-0.60	0.0-2.9	15-100	---	---	3	3.6-6.5
	1-3	44-85	5-49	2-8	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-6.0	.28	.32		3.6-6.5
	3-16	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.6-6.5
	16-24	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	24-34	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	34-41	44-85	5-49	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
	41-72	44-90	0-40	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
Skerry, very bouldery-----------	0-2	---	---	0-8	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	15-100	---	---	3	3.5-6.5
	2-6	44-85	5-49	2-8	0.60-1.30	0.6-2	0.06-0.23	0.0-2.9	2.0-20	.28	.32		3.5-6.5
	6-9	44-85	5-49	2-8	0.60-1.30	0.6-2	0.06-0.23	0.0-2.9	0.0-2.0	.28	.32		3.5-6.5
	9-13	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-4.0	.28	.32		3.5-6.5
	13-27	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.5-6.5
	27-72	44-90	0-40	0-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
57A:													
Croghan-------------	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	4	3.6-6.0
	1-6	60-100	0-40	0-5	1.10-1.50	2-20	0.10-0.20	0.0-2.9	2.0-10	.24	.24		3.6-6.0
	6-10	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.15	0.0-2.9	0.0-2.0	.17	.20		4.5-6.0
	10-11	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.15	0.0-2.9	2.0-8.0	.17	.20		4.5-6.0
	11-19	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	1.0-3.0	.17	.20		4.5-6.0
	19-24	70-100	0-30	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	1.0-3.0	.17	.20		4.5-6.0
	24-34	70-100	0-30	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	34-49	70-100	0-29	0-5	1.20-1.50	6-100	0.03-0.06	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	49-72	70-100	0-29	0-5	1.20-1.50	6-100	0.03-0.06	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
57B:													
Croghan-------------	0-1	---	---	0-5	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	4	3.6-6.0
	1-6	60-100	0-40	0-5	1.10-1.50	2-20	0.10-0.20	0.0-2.9	2.0-10	.24	.24		3.6-6.0
	6-10	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.15	0.0-2.9	0.0-2.0	.17	.20		4.5-6.0
	10-11	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.15	0.0-2.9	2.0-8.0	.17	.20		4.5-6.0
	11-19	70-100	0-40	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	1.0-3.0	.17	.20		4.5-6.0
	19-24	70-100	0-30	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	1.0-3.0	.17	.20		4.5-6.0
	24-34	70-100	0-30	0-5	1.20-1.50	6-100	0.03-0.07	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	34-49	70-100	0-29	0-5	1.20-1.50	6-100	0.03-0.06	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	49-72	70-100	0-29	0-5	1.20-1.50	6-100	0.03-0.06	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
60B:													
Adirondack, somewhat poorly drained, very bouldery------	0-2	---	---	0-10	0.10-0.40	0.6-2	0.16-0.60	0.0-2.9	60-100	---	---	3	3.6-5.0
	2-4	15-85	10-70	5-18	1.00-1.30	0.6-2	0.15-0.21	0.0-2.9	0.0-2.0	.28	.32		3.6-5.5
	4-13	15-85	15-70	5-18	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	1.0-15	.28	.32		3.6-5.5
	13-24	15-85	15-70	5-18	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	1.0-6.0	.28	.32		3.6-5.5
	24-37	15-85	15-70	5-12	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.0-1.0	.28	.32		4.5-6.0
	37-46	24-85	10-50	3-12	1.50-2.00	0.6-2	0.04-0.10	0.0-2.9	0.0-0.5	.20	.28		5.1-6.0
	46-72	24-85	10-50	3-12	1.70-2.00	0.06-0.2	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24		5.1-6.0
Adirondack, poorly drained, very bouldery-----------	0-2	---	---	0-10	0.10-0.40	0.6-2	0.16-0.60	0.0-2.9	70-100	---	---	3	3.6-5.0
	2-4	15-85	10-70	5-18	1.00-1.30	0.6-2	0.15-0.21	0.0-2.9	0.0-2.0	.28	.32		3.6-5.5
	4-13	15-85	15-70	5-18	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	1.0-15	.28	.32		3.6-5.5
	13-24	15-85	15-70	5-18	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.1-6.0	.28	.32		3.6-5.5
	24-37	15-85	15-70	5-12	1.20-1.50	0.6-2	0.10-0.16	0.0-2.9	0.0-1.0	.28	.32		4.5-6.0
	37-46	24-85	10-50	3-12	1.50-2.00	0.6-2	0.04-0.10	0.0-2.9	0.0-0.5	.20	.28		5.1-6.0
	46-72	24-85	10-50	3-12	1.70-2.00	0.06-0.2	0.04-0.10	0.0-2.9	0.0-0.5	.17	.24		5.1-6.0
61A:													
Schoharie-----------	0-10	0-52	28-80	20-40	1.00-1.25	0.2-0.6	0.17-0.21	0.0-2.9	3.0-6.0	.49	.49	3	5.6-7.3
	10-14	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	14-39	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	39-55	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-1.0	.37	.37		7.4-8.4
	55-72	0-45	0-60	35-60	1.15-1.40	0.0015-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.43	.43		7.4-8.4
61B:													
Schoharie-----------	0-10	0-52	28-80	20-40	1.00-1.25	0.2-0.6	0.17-0.21	0.0-2.9	3.0-6.0	.49	.49	3	5.6-7.3
	10-14	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	14-39	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	39-55	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-1.0	.37	.37		7.4-8.4
	55-72	0-45	0-60	35-60	1.15-1.40	0.0015-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.43	.43		7.4-8.4
61C:													
Schoharie-----------	0-10	0-52	28-80	20-40	1.00-1.25	0.2-0.6	0.17-0.21	0.0-2.9	3.0-6.0	.49	.49	3	5.6-7.3
	10-14	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	14-39	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	39-55	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-1.0	.37	.37		7.4-8.4
	55-72	0-45	0-60	35-60	1.15-1.40	0.0015-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.43	.43		7.4-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
61E:													
Schoharie-----------	0-10	0-52	28-80	20-40	1.00-1.25	0.2-0.6	0.17-0.21	0.0-2.9	3.0-6.0	.49	.49	3	5.6-7.3
	10-14	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	14-39	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-2.0	.32	.32		5.6-7.8
	39-55	0-45	5-73	35-60	1.20-1.40	0.0015-0.2	0.12-0.17	3.0-5.9	0.0-1.0	.37	.37		7.4-8.4
	55-72	0-45	0-60	35-60	1.15-1.40	0.0015-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.43	.43		7.4-8.4
62C:													
Becket, very bouldery-----------	0-1	---	---	0-8	0.10-0.50	0.6-2	0.16-0.60	0.0-2.9	15-100	---	---	3	3.6-6.5
	1-3	44-85	5-49	2-8	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-6.0	.28	.32		3.6-6.5
	3-16	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.6-6.5
	16-24	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	24-34	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	34-41	44-85	5-49	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
	41-72	44-90	0-40	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
Tunbridge, very bouldery-----------	0-3	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	35-100	---	---	3	3.6-6.0
	3-8	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	2.0-12	.24	.28		3.6-6.0
	8-9	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	0.0-2.0	.28	.32		3.6-6.0
	9-12	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	2.0-8.0	.28	.32		3.6-6.0
	12-14	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	1.0-6.0	.24	.32		3.6-6.0
	14-18	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.5-6.0	.24	.32		3.6-6.0
	18-30	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.0-1.0	.24	.32		3.6-6.0
	30-38	20-85	10-65	3-10	1.20-1.60	0.6-6	0.03-0.18	0.0-2.9	0.0-0.5	.24	.32		5.1-6.5
	38-52	---	---	---	---	0.0000-0.06	---	---	---	---	---		---
62D:													
Becket, very bouldery-----------	0-1	---	---	0-8	0.10-0.50	0.6-2	0.16-0.60	0.0-2.9	15-100	---	---	3	3.6-6.5
	1-3	44-85	5-49	2-8	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-6.0	.28	.32		3.6-6.5
	3-16	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.6-6.5
	16-24	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	24-34	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	34-41	44-85	5-49	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
	41-72	44-90	0-40	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
62D:													
Tunbridge, very bouldery-----------	0-3	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	35-100	---	---	3	3.6-6.0
	3-8	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	2.0-12	.24	.28		3.6-6.0
	8-9	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	0.0-2.0	.28	.32		3.6-6.0
	9-12	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	2.0-8.0	.28	.32		3.6-6.0
	12-14	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	1.0-6.0	.24	.32		3.6-6.0
	14-18	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.5-6.0	.24	.32		3.6-6.0
	18-30	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.0-1.0	.24	.32		3.6-6.0
	30-38	20-85	10-65	3-10	1.20-1.60	0.6-6	0.03-0.18	0.0-2.9	0.0-0.5	.24	.32		5.1-6.5
	38-52	---	---	---	---	0.0000-0.06	---	---	---	---	---		---
63A:													
Wallington----------	0-9	15-75	15-80	5-18	1.20-1.50	0.6-2	0.19-0.21	0.0-2.9	2.0-8.0	.37	.37	2	4.5-6.0
	9-12	15-75	15-80	5-18	1.20-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	12-15	15-75	15-80	5-18	1.20-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	15-24	15-80	10-80	5-18	1.50-1.80	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		4.5-7.3
	24-35	15-80	10-80	5-18	1.50-1.80	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		4.5-7.3
	35-80	15-90	5-80	2-18	1.45-1.65	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		5.6-7.3
63B:													
Wallington----------	0-9	15-75	15-80	5-18	1.20-1.50	0.6-2	0.19-0.21	0.0-2.9	2.0-8.0	.37	.37	2	4.5-6.0
	9-12	15-75	15-80	5-18	1.20-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	12-15	15-75	15-80	5-18	1.20-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	15-24	15-80	10-80	5-18	1.50-1.80	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		4.5-7.3
	24-35	15-80	10-80	5-18	1.50-1.80	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		4.5-7.3
	35-80	15-90	5-80	2-18	1.45-1.65	0.06-0.2	0.10-0.14	0.0-2.9	0.0-1.0	.64	.64		5.6-7.3
64A:													
Rhinebeck-----------	0-9	15-52	28-80	15-40	1.00-1.25	0.2-2	0.16-0.21	3.0-5.9	3.0-7.0	.49	.49	3	5.1-7.3
	9-17	0-20	40-73	27-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-2.0	.37	.37		5.1-7.8
	17-28	0-20	40-73	35-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-2.0	.37	.37		5.1-7.8
	28-35	0-20	40-73	27-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.37	.37		6.1-8.4
	35-72	0-90	5-80	1-60	1.45-1.65	0.06-0.2	0.12-0.15	0.0-2.9	0.0-1.0	.49	.49		6.1-8.4
64B:													
Rhinebeck-----------	0-9	15-52	28-80	15-40	1.00-1.25	0.2-2	0.16-0.21	3.0-5.9	3.0-7.0	.49	.49	3	5.1-7.3
	9-17	0-20	40-73	27-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-2.0	.37	.37		5.1-7.8
	17-28	0-20	40-73	35-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-2.0	.37	.37		5.1-7.8
	28-35	0-20	40-73	27-60	1.20-1.40	0.06-0.2	0.12-0.14	3.0-5.9	0.0-1.0	.37	.37		6.1-8.4
	35-72	0-90	5-80	1-60	1.45-1.65	0.06-0.2	0.12-0.15	0.0-2.9	0.0-1.0	.49	.49		6.1-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
65F:													
Tunbridge, very bouldery-----------	0-3	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	35-100	---	---	3	3.6-6.0
	3-8	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	2.0-12	.24	.28		3.6-6.0
	8-9	20-85	10-65	3-10	0.80-1.20	0.6-6	0.11-0.21	0.0-2.9	0.0-2.0	.28	.32		3.6-6.0
	9-12	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	2.0-8.0	.28	.32		3.6-6.0
	12-14	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	1.0-6.0	.24	.32		3.6-6.0
	14-18	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.5-6.0	.24	.32		3.6-6.0
	18-30	20-85	10-65	3-10	1.20-1.40	0.6-6	0.10-0.21	0.0-2.9	0.0-1.0	.24	.32		3.6-6.0
	30-38	20-85	10-65	3-10	1.20-1.60	0.6-6	0.03-0.18	0.0-2.9	0.0-0.5	.24	.32		5.1-6.5
	38-52	---	---	---	---	0.0000-0.06	---	---	---	---	---		---
Lyman---------------	0-5	20-80	10-65	2-10	0.75-1.20	2-6	0.13-0.24	0.0-2.9	3.0-15	.20	.28	2	3.6-6.0
	5-15	20-80	0-65	2-10	0.90-1.40	2-6	0.08-0.28	0.0-2.9	1.0-10	.20	.28		3.6-6.0
	15-25	---	---	---	---	0.0000-0.06	---	---	---	---	---		---
68:													
Wakeville, rarely flooded------------	0-10	10-75	15-80	8-18	1.15-1.40	0.6-2	0.18-0.21	0.0-2.9	2.0-6.0	.43	.43	5	5.6-7.3
	10-15	10-75	15-80	5-18	1.15-1.45	0.6-2	0.18-0.19	0.0-2.9	0.0-3.0	.49	.49		5.6-7.3
	15-35	10-75	10-80	5-18	1.15-1.45	0.6-2	0.18-0.19	0.0-2.9	0.0-2.0	.49	.49		5.6-7.3
	35-72	10-90	5-80	1-18	1.25-1.55	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.49	.64		6.1-8.4
72:													
Canandaigua---------	0-8	0-65	15-80	15-26	1.20-1.40	0.6-2	0.19-0.20	0.0-2.9	4.0-15	.49	.49	4	5.6-7.8
	8-16	0-65	15-80	15-35	1.20-1.40	0.6-2	0.19-0.20	0.0-2.9	0.0-3.0	.49	.49		5.6-7.8
	16-21	0-50	15-80	15-35	1.20-1.40	0.2-0.6	0.19-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-34	0-50	15-80	15-35	1.20-1.40	0.2-0.6	0.19-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	34-40	0-90	10-80	6-50	1.15-1.40	0.2-0.6	0.19-0.21	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4
	40-72	0-90	10-80	6-50	1.15-1.40	0.2-0.6	0.19-0.21	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4
74B:													
Berkshire-----------	0-1	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---	4	3.5-6.0
	1-6	24-75	15-50	3-10	1.10-1.15	0.6-6	0.10-0.22	0.0-2.9	2.0-6.0	.20	.24		3.6-6.0
	6-8	24-75	15-50	3-10	1.10-1.15	0.6-6	0.10-0.22	0.0-2.9	0.0-2.0	.28	.32		3.6-6.0
	8-9	24-75	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	9-14	24-80	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	1.0-3.0	.28	.37		3.6-6.0
	14-21	24-80	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	1.0-2.0	.28	.37		3.6-6.0
	21-72	24-85	10-50	1-10	1.30-1.60	0.6-6	0.10-0.18	0.0-2.9	0.0-1.0	.24	.37		3.6-6.0

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
74C:													
Berkshire-----------	0-1	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---	4	3.5-6.0
	1-6	24-75	15-50	3-10	1.10-1.15	0.6-6	0.10-0.22	0.0-2.9	2.0-6.0	.20	.24		3.6-6.0
	6-8	24-75	15-50	3-10	1.10-1.15	0.6-6	0.10-0.22	0.0-2.9	0.0-2.0	.28	.32		3.6-6.0
	8-9	24-75	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	9-14	24-80	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	1.0-3.0	.28	.37		3.6-6.0
	14-21	24-80	10-50	3-10	1.15-1.30	0.6-6	0.10-0.20	0.0-2.9	1.0-2.0	.28	.37		3.6-6.0
	21-72	24-85	10-50	1-10	1.30-1.60	0.6-6	0.10-0.18	0.0-2.9	0.0-1.0	.24	.37		3.6-6.0
75:													
Lamson--------------	0-9	15-91	5-70	5-18	1.10-1.40	0.6-6	0.15-0.22	0.0-2.9	3.0-12	.28	.28	4	5.6-7.8
	9-13	44-91	5-49	5-18	1.10-1.40	0.6-6	0.15-0.22	0.0-2.9	1.0-6.0	.28	.28		5.6-7.8
	13-18	44-85	0-49	5-18	1.25-1.55	0.6-6	0.12-0.17	0.0-2.9	0.0-3.0	.20	.24		5.6-7.8
	18-22	44-85	0-49	5-18	1.25-1.55	0.6-6	0.12-0.17	0.0-2.9	0.0-2.0	.20	.24		5.6-7.8
	22-36	44-91	0-49	5-18	1.25-1.55	0.6-6	0.08-0.17	0.0-2.9	0.0-2.0	.20	.24		6.1-8.4
	36-72	20-100	0-49	1-30	1.45-1.65	0.6-6	0.02-0.17	0.0-2.9	0.0-0.5	.20	.24		6.1-8.4
76:													
Niagara-------------	0-6	15-60	20-80	5-20	1.20-1.50	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.43	.43	4	5.1-7.3
	6-11	15-60	20-80	5-20	1.20-1.50	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.43	.43		5.1-7.3
	11-13	15-60	20-80	10-25	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	13-21	15-60	20-80	18-35	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-26	15-90	10-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
	26-32	15-90	10-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
	32-72	15-95	5-80	5-35	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.6-8.4
77A:													
Collamer------------	0-10	0-50	45-80	15-27	1.20-1.50	0.6-2	0.14-0.21	0.0-2.9	2.0-5.0	.49	.49	4	5.1-7.3
	10-15	0-50	45-80	15-35	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	15-21	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-29	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	29-43	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49		5.6-7.8
	43-72	0-90	10-80	4-35	1.45-1.65	0.06-0.6	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4
77B:													
Collamer------------	0-10	0-50	45-80	15-27	1.20-1.50	0.6-2	0.14-0.21	0.0-2.9	2.0-5.0	.49	.49	4	5.1-7.3
	10-15	0-50	45-80	15-35	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	15-21	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-29	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	29-43	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49		5.6-7.8
	43-72	0-90	10-80	4-35	1.45-1.65	0.06-0.6	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
77C:													
Collamer------------	0-10	0-50	45-80	15-27	1.20-1.50	0.6-2	0.14-0.21	0.0-2.9	2.0-5.0	.49	.49	4	5.1-7.3
	10-15	0-50	45-80	15-35	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	15-21	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-29	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	29-43	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49		5.6-7.8
	43-72	0-90	10-80	4-35	1.45-1.65	0.06-0.6	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4
77D:													
Collamer------------	0-10	0-50	45-80	15-27	1.20-1.50	0.6-2	0.14-0.21	0.0-2.9	2.0-5.0	.49	.49	4	5.1-7.3
	10-15	0-50	45-80	15-35	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.1-7.3
	15-21	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	21-29	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-2.0	.49	.49		5.6-7.8
	29-43	0-50	45-80	15-35	1.20-1.50	0.06-0.6	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49		5.6-7.8
	43-72	0-90	10-80	4-35	1.45-1.65	0.06-0.6	0.12-0.20	0.0-2.9	0.0-1.0	.64	.64		6.1-8.4
78A:													
Arkport-------------	0-7	40-95	0-60	5-18	1.10-1.40	2-6	0.09-0.17	0.0-2.9	2.0-4.0	.28	.28	5	4.5-7.3
	7-11	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	11-20	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	20-30	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	30-42	40-95	0-55	1-15	1.25-1.55	2-6	0.06-0.12	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	42-72	70-100	0-29	1-5	1.25-1.55	2-6	0.02-0.06	0.0-2.9	0.0-0.5	.28	.28		5.6-8.4
78B:													
Arkport-------------	0-7	40-95	0-60	5-18	1.10-1.40	2-6	0.09-0.17	0.0-2.9	2.0-4.0	.28	.28	5	4.5-7.3
	7-11	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	11-20	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	20-30	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	30-42	40-95	0-55	1-15	1.25-1.55	2-6	0.06-0.12	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	42-72	70-100	0-29	1-5	1.25-1.55	2-6	0.02-0.06	0.0-2.9	0.0-0.5	.28	.28		5.6-8.4
78C:													
Arkport-------------	0-7	40-95	0-60	5-18	1.10-1.40	2-6	0.09-0.17	0.0-2.9	2.0-4.0	.28	.28	5	4.5-7.3
	7-11	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	11-20	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-2.0	.28	.28		5.1-7.3
	20-30	40-95	0-55	3-15	1.25-1.55	2-6	0.06-0.16	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	30-42	40-95	0-55	1-15	1.25-1.55	2-6	0.06-0.12	0.0-2.9	0.0-1.0	.28	.28		5.1-7.3
	42-72	70-100	0-29	1-5	1.25-1.55	2-6	0.02-0.06	0.0-2.9	0.0-0.5	.28	.28		5.6-8.4
79A:													
Roundabout----------	0-10	0-70	15-80	3-18	0.85-1.25	0.2-2	0.25-0.35	0.0-2.9	3.0-10	.49	.49	4	4.5-6.5
	10-14	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	14-20	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	20-35	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-1.0	.64	.64		4.5-6.5
	35-72	0-90	5-80	3-18	1.40-1.70	0.06-0.6	0.05-0.26	0.0-2.9	0.0-1.0	.64	.64		5.6-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
79B:													
Roundabout----------	0-10	0-70	15-80	3-18	0.85-1.25	0.2-2	0.25-0.35	0.0-2.9	3.0-10	.49	.49	4	4.5-6.5
	10-14	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	14-20	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-2.0	.64	.64		4.5-6.5
	20-35	0-70	15-80	3-18	1.30-1.60	0.2-2	0.20-0.30	0.0-2.9	0.0-1.0	.64	.64		4.5-6.5
	35-72	0-90	5-80	3-18	1.40-1.70	0.06-0.6	0.05-0.26	0.0-2.9	0.0-1.0	.64	.64		5.6-7.3
81A:													
Covert--------------	0-7	70-90	0-29	2-10	1.30-1.55	6-20	0.09-0.12	0.0-2.9	2.0-4.0	.10	.10	5	4.5-7.3
	7-13	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-2.0	.15	.15		4.5-6.5
	13-21	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-2.0	.15	.15		4.5-7.3
	21-36	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-1.0	.15	.15		4.5-7.3
	36-72	70-100	0-29	0-6	1.45-1.65	6-20	0.04-0.07	0.0-2.9	0.0-1.0	.15	.15		5.1-8.4
81B:													
Covert--------------	0-7	70-90	0-29	2-10	1.30-1.55	6-20	0.09-0.12	0.0-2.9	2.0-4.0	.10	.10	5	4.5-7.3
	7-13	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-2.0	.15	.15		4.5-6.5
	13-21	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-2.0	.15	.15		4.5-7.3
	21-36	70-100	0-29	2-6	1.30-1.60	6-20	0.05-0.08	0.0-2.9	0.0-1.0	.15	.15		4.5-7.3
	36-72	70-100	0-29	0-6	1.45-1.65	6-20	0.04-0.07	0.0-2.9	0.0-1.0	.15	.15		5.1-8.4
90A:													
Windsor-------------	0-2	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	2.0-4.0	.24	.24	4	4.5-6.0
	2-7	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	1.0-4.0	.24	.24		4.5-6.0
	7-15	70-91	0-29	0-5	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	15-21	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	21-29	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	29-54	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
	54-72	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
90B:													
Windsor-------------	0-2	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	2.0-4.0	.24	.24	4	4.5-6.0
	2-7	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	1.0-4.0	.24	.24		4.5-6.0
	7-15	70-91	0-29	0-5	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	15-21	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	21-29	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	29-54	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
	54-72	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
90C:													
Windsor-------------	0-2	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	2.0-4.0	.24	.24	4	4.5-6.0
	2-7	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	1.0-4.0	.24	.24		4.5-6.0
	7-15	70-91	0-29	0-5	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	15-21	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	21-29	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	29-54	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
	54-72	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
90D:													
Windsor-------------	0-2	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	2.0-4.0	.24	.24	4	4.5-6.0
	2-7	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	1.0-4.0	.24	.24		4.5-6.0
	7-15	70-91	0-29	0-5	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	15-21	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	21-29	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	29-54	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
	54-72	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
90E:													
Windsor-------------	0-2	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	2.0-4.0	.24	.24	4	4.5-6.0
	2-7	70-91	0-29	1-6	1.00-1.20	6-100	0.09-0.12	0.0-2.9	1.0-4.0	.24	.24		4.5-6.0
	7-15	70-91	0-29	0-5	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	15-21	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	21-29	70-100	0-29	0-3	1.30-1.55	6-100	0.07-0.10	0.0-2.9	0.0-1.0	.17	.20		4.5-6.0
	29-54	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
	54-72	70-100	0-29	0-2	1.40-1.65	6-100	0.04-0.10	0.0-2.9	0.0-0.5	.10	.10		4.5-6.5
92:													
Napoleon------------	0-10	---	---	0-1	0.10-0.40	0.6-6	0.55-0.65	0.0-2.9	80-100	---	---	3	3.6-4.5
	10-20	---	---	0-1	0.10-0.40	0.6-6	0.55-0.65	0.0-2.9	80-100	---	---		3.6-4.5
	20-40	---	---	0-1	0.10-0.40	0.6-6	0.55-0.65	0.0-2.9	80-100	---	---		3.6-4.5
	40-60	---	---	0-10	0.10-0.40	0.6-6	0.55-0.65	0.0-2.9	80-100	---	---		3.6-4.5
	60-72	15-100	0-80	0-40	1.00-1.60	0.06-6	0.03-0.20	0.0-2.9	0.0-15	---	---		5.1-7.8
94:													
Naumburg, somewhat poorly drained-----	0-4	---	---	0-5	0.10-0.40	2-6	0.20-0.60	0.0-2.9	70-100	---	---	4	3.6-5.5
	4-12	44-91	0-49	1-5	1.20-1.50	2-6	0.05-0.15	0.0-2.9	0.0-2.0	.15	.15		3.6-5.5
	12-15	70-100	0-29	1-5	1.20-1.50	6-20	0.06-0.15	0.0-2.9	2.0-4.0	.17	.17		3.6-5.5
	15-20	70-100	0-29	1-5	1.20-1.50	6-20	0.06-0.12	0.0-2.9	1.0-3.0	.17	.17		3.6-5.5
	20-25	70-100	0-29	0-5	1.45-1.65	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.17	.17		3.6-5.5
	25-72	70-100	0-29	0-5	1.45-1.65	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.17	.17		4.5-6.5

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
94:													
Naumburg, poorly drained	0-4	---	---	0-5	0.10-0.40	2-6	0.20-0.60	---	70-100	---	---	4	3.6-5.5
	4-12	44-91	0-49	1-5	1.20-1.50	2-6	0.05-0.15	0.0-2.9	0.0-2.0	.15	.15		3.6-5.5
	12-15	70-100	0-29	1-5	1.20-1.50	6-20	0.06-0.15	0.0-2.9	2.0-4.0	.17	.17		3.6-5.5
	15-20	70-100	0-29	1-5	1.20-1.50	6-20	0.06-0.12	0.0-2.9	1.0-3.0	.17	.17		3.6-5.5
	20-25	70-100	0-29	0-5	1.45-1.65	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.17	.17		3.6-5.5
	25-72	70-100	0-29	0-5	1.45-1.65	6-20	0.04-0.06	0.0-2.9	0.0-1.0	.17	.17		4.5-6.5
95:													
Carlisle	0-10	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---	3	4.5-7.8
	10-18	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	18-51	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	51-54	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	54-72	0-85	0-80	4-45	1.10-1.60	0.2-2	0.12-0.22	0.0-2.9	0.0-1.0	---	---		6.1-7.8
99:													
Greenwood	0-5	---	---	0-0	0.10-0.40	2-6	0.55-0.65	0.0-0.0	55-100	---	---	3	3.6-4.4
	5-12	---	---	0-0	0.10-0.40	2-6	0.55-0.65	0.0-0.0	55-100	---	---		3.6-4.4
	12-32	---	---	0-0	0.10-0.25	0.6-6	0.45-0.55	0.0-0.0	55-100	---	---		3.6-4.4
	32-72	---	---	0-10	0.10-0.25	0.6-6	0.45-0.55	0.0-0.0	55-100	---	---		3.6-4.4
102B:													
Honeoye	0-7	15-70	20-80	10-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	7-17	15-70	20-80	15-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.37		5.6-7.8
	17-25	15-52	28-80	18-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.28	.37		5.6-7.8
	25-72	15-70	20-80	10-25	1.65-1.85	0.0015-0.2	0.06-0.13	0.0-2.9	0.0-1.0	.24	.37		7.4-8.4
102C:													
Honeoye	0-7	15-70	20-80	10-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	7-17	15-70	20-80	15-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.37		5.6-7.8
	17-25	15-52	28-80	18-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.28	.37		5.6-7.8
	25-72	15-70	20-80	10-25	1.65-1.85	0.0015-0.2	0.06-0.13	0.0-2.9	0.0-1.0	.24	.37		7.4-8.4
102D:													
Honeoye	0-7	15-70	20-80	10-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	7-17	15-70	20-80	15-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.37		5.6-7.8
	17-25	15-52	28-80	18-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.28	.37		5.6-7.8
	25-72	15-70	20-80	10-25	1.65-1.85	0.0015-0.2	0.06-0.13	0.0-2.9	0.0-1.0	.24	.37		7.4-8.4
103B:													
Honeoye	0-7	15-70	20-80	10-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	7-17	15-70	20-80	15-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.37		5.6-7.8
	17-25	15-52	28-80	18-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.28	.37		5.6-7.8
	25-72	15-70	20-80	10-25	1.65-1.85	0.0015-0.2	0.06-0.13	0.0-2.9	0.0-1.0	.24	.37		7.4-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
103B:													
Urban land----------	0-6	---	---	---	---	---	---	---	---	---	---	---	---
104E:													
Honeoye-------------	0-7	15-70	20-80	10-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	7-17	15-70	20-80	15-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.37		5.6-7.8
	17-25	15-52	28-80	18-28	1.35-1.65	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.28	.37		5.6-7.8
	25-72	15-70	20-80	10-25	1.65-1.85	0.0015-0.2	0.06-0.13	0.0-2.9	0.0-1.0	.24	.37		7.4-8.4
Cazenovia-----------	0-7	15-70	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	7-10	15-65	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	0.0-2.0	.32	.37		5.6-7.3
	10-16	15-50	20-80	20-35	1.20-1.40	0.2-2	0.09-0.16	3.0-5.9	0.0-2.0	.37	.43		5.6-7.3
	16-22	15-45	20-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.37	.49		5.6-7.3
	22-72	15-52	20-73	20-35	1.40-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
109B:													
Cazenovia-----------	0-7	15-70	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	7-10	15-65	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	0.0-2.0	.32	.37		5.6-7.3
	10-16	15-50	20-80	20-35	1.20-1.40	0.2-2	0.09-0.16	3.0-5.9	0.0-2.0	.37	.43		5.6-7.3
	16-22	15-45	20-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.37	.49		5.6-7.3
	22-72	15-52	20-73	20-35	1.40-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
109C:													
Cazenovia-----------	0-7	15-70	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	7-10	15-65	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	0.0-2.0	.32	.37		5.6-7.3
	10-16	15-50	20-80	20-35	1.20-1.40	0.2-2	0.09-0.16	3.0-5.9	0.0-2.0	.37	.43		5.6-7.3
	16-22	15-45	20-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.37	.49		5.6-7.3
	22-72	15-52	20-73	20-35	1.40-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
109D:													
Cazenovia-----------	0-7	15-70	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	7-10	15-65	20-80	15-27	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	0.0-2.0	.32	.37		5.6-7.3
	10-16	15-50	20-80	20-35	1.20-1.40	0.2-2	0.09-0.16	3.0-5.9	0.0-2.0	.37	.43		5.6-7.3
	16-22	15-45	20-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.37	.49		5.6-7.3
	22-72	15-52	20-73	20-35	1.40-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
111B:													
Lansing-------------	0-9	15-70	10-80	10-25	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.1-7.3
	9-13	15-70	10-80	10-25	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	13-17	15-51	10-80	15-28	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	17-22	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	22-36	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	36-72	15-51	28-80	10-25	1.65-1.85	0.06-0.2	0.06-0.15	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
111C:													
Lansing-------------	0-9	15-70	10-80	10-25	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.1-7.3
	9-13	15-70	10-80	10-25	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	13-17	15-51	10-80	15-28	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	17-22	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	22-36	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	36-72	15-51	28-80	10-25	1.65-1.85	0.06-0.2	0.06-0.15	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
111D:													
Lansing-------------	0-9	15-70	10-80	10-25	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.1-7.3
	9-13	15-70	10-80	10-25	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	13-17	15-51	10-80	15-28	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	17-22	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	22-36	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	36-72	15-51	28-80	10-25	1.65-1.85	0.06-0.2	0.06-0.15	0.0-2.9	0.0-0.0	.37	.49		6.6-8.4
111E:													
Lansing-------------	0-9	15-70	10-80	10-25	1.20-1.50	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.1-7.3
	9-13	15-70	10-80	10-25	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	13-17	15-51	10-80	15-28	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	17-22	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	22-36	15-51	28-80	15-30	1.35-1.65	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	36-72	15-51	28-80	10-25	1.65-1.85	0.06-0.2	0.06-0.15	0.0-2.9	0.0-0.0	.37	.49		6.6-8.4
113A:													
Camroden------------	0-5	15-52	28-80	15-27	0.70-1.00	0.6-2	0.15-0.19	0.0-2.9	5.0-10	.28	.32	2	4.5-6.0
	5-16	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	16-19	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.43		4.5-6.0
	19-42	15-52	28-80	18-28	1.60-2.00	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	42-72	15-52	28-80	15-28	1.40-1.85	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.6-7.8
113B:													
Camroden------------	0-5	15-52	28-80	15-27	0.70-1.00	0.6-2	0.15-0.19	0.0-2.9	5.0-10	.28	.32	2	4.5-6.0
	5-16	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	16-19	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.43		4.5-6.0
	19-42	15-52	28-80	18-28	1.60-2.00	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	42-72	15-52	28-80	15-28	1.40-1.85	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.6-7.8
113C:													
Camroden------------	0-5	15-52	28-80	15-27	0.70-1.00	0.6-2	0.15-0.19	0.0-2.9	5.0-10	.28	.32	2	4.5-6.0
	5-16	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	16-19	15-52	28-80	18-30	0.75-1.15	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.43		4.5-6.0
	19-42	15-52	28-80	18-28	1.60-2.00	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	42-72	15-52	28-80	15-28	1.40-1.85	0.0015-0.06	0.01-0.02	0.0-2.9	0.0-1.0	.37	.49		5.6-7.8

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
114B:													
Pinckney------------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
114C:													
Pinckney------------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
114D:													
Pinckney------------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
115B:													
Chadakoin-----------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	50-100	---	---	4	3.6-6.0
	1-6	15-52	28-80	6-18	1.10-1.40	0.6-2	0.12-0.21	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	6-10	15-75	10-80	6-18	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		4.5-6.0
	10-27	15-75	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	27-32	15-80	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	32-43	15-80	10-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		4.5-6.0
	43-60	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.43	.55		5.1-6.5
	60-72	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.55		5.1-6.5
115C:													
Chadakoin-----------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	50-100	---	---	4	3.6-6.0
	1-6	15-52	28-80	6-18	1.10-1.40	0.6-2	0.12-0.21	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	6-10	15-75	10-80	6-18	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		4.5-6.0
	10-27	15-75	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	27-32	15-80	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	32-43	15-80	10-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		4.5-6.0
	43-60	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.43	.55		5.1-6.5
	60-72	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.55		5.1-6.5

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
115D:													
Chadakoin-----------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	50-100	---	---	4	3.6-6.0
	1-6	15-52	28-80	6-18	1.10-1.40	0.6-2	0.12-0.21	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	6-10	15-75	10-80	6-18	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		4.5-6.0
	10-27	15-75	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	27-32	15-80	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	32-43	15-80	10-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		4.5-6.0
	43-60	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.43	.55		5.1-6.5
	60-72	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.55		5.1-6.5
115E:													
Chadakoin-----------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	50-100	---	---	4	3.6-6.0
	1-6	15-52	28-80	6-18	1.10-1.40	0.6-2	0.12-0.21	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	6-10	15-75	10-80	6-18	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		4.5-6.0
	10-27	15-75	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	27-32	15-80	10-80	6-18	1.40-1.60	0.6-2	0.07-0.14	0.0-2.9	0.0-2.0	.37	.49		4.5-6.0
	32-43	15-80	10-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		4.5-6.0
	43-60	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.43	.55		5.1-6.5
	60-72	15-85	5-70	6-18	1.40-1.70	0.2-2	0.07-0.14	0.0-2.9	0.0-1.0	.37	.55		5.1-6.5
117A:													
Pittsfield----------	0-9	24-85	10-50	4-14	1.40-1.60	0.6-6	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	4	4.5-7.3
	9-15	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	15-22	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	22-32	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-7.3
	32-45	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
	45-72	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
117B:													
Pittsfield----------	0-9	24-85	10-50	4-14	1.40-1.60	0.6-6	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	4	4.5-7.3
	9-15	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	15-22	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	22-32	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-7.3
	32-45	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
	45-72	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
117C:													
Pittsfield----------	0-9	24-85	10-50	4-14	1.40-1.60	0.6-6	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	4	4.5-7.3
	9-15	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	15-22	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	22-32	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-7.3
	32-45	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
	45-72	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
117D:													
Pittsfield----------	0-9	24-85	10-50	4-14	1.40-1.60	0.6-6	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	4	4.5-7.3
	9-15	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	15-22	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	22-32	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-7.3
	32-45	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
	45-72	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
117E:													
Pittsfield----------	0-9	24-85	10-50	4-14	1.40-1.60	0.6-6	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	4	4.5-7.3
	9-15	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	15-22	24-85	10-50	4-14	1.50-1.80	0.6-6	0.11-0.18	0.0-2.9	0.0-2.0	.32	.49		5.1-7.3
	22-32	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-7.3
	32-45	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
	45-72	24-85	5-50	1-10	1.50-1.80	0.6-6	0.09-0.17	0.0-2.9	0.0-1.0	.24	.43		5.6-8.4
119B:													
Pyrities------------	0-8	20-85	15-70	7-18	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.24	.28	4	5.6-7.3
	8-15	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	15-27	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	27-66	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
	66-72	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
119C:													
Pyrities------------	0-8	20-85	15-70	7-18	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.24	.28	4	5.6-7.3
	8-15	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	15-27	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	27-66	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
	66-72	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
119D:													
Pyrities------------	0-8	20-85	15-70	7-18	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.24	.28	4	5.6-7.3
	8-15	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	15-27	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	27-66	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
	66-72	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
119E:													
Pyrities------------	0-8	20-85	15-70	7-18	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.24	.28	4	5.6-7.3
	8-15	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	15-27	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	27-66	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
	66-72	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
120C:													
Pyrities, rolling, very bouldery------	0-8	20-85	15-70	7-18	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.24	.28	4	5.6-7.3
	8-15	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	15-27	24-85	10-50	7-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	27-66	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
	66-72	24-85	10-50	7-18	1.50-1.85	0.06-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.24	.32		6.1-8.4
121B:													
Worth---------------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-2.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
121C:													
Worth---------------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-2.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
121D:													
Worth---------------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-2.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
121E:													
Worth---------------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-2.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
126A:													
Lima----------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	2.0-6.0	.24	.32	3	5.6-7.8
	7-12	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.32		5.6-7.8
	12-17	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	17-28	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	28-47	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
	47-72	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
126B:													
Lima----------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	2.0-6.0	.24	.32	3	5.6-7.8
	7-12	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.32		5.6-7.8
	12-17	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	17-28	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	28-47	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
	47-72	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
126C:													
Lima----------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	2.0-6.0	.24	.32	3	5.6-7.8
	7-12	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.16	0.0-2.9	0.0-4.0	.24	.32		5.6-7.8
	12-17	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	17-28	15-52	20-80	18-30	1.40-1.60	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.32	.49		5.6-7.8
	28-47	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
	47-72	15-82	0-80	10-27	1.70-1.95	0.0015-0.2	0.01-0.10	0.0-2.9	0.0-1.0	.24	.32		7.4-8.4
133B:													
Empeyville----------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	2	3.5-6.5
	1-3	15-75	10-70	1-18	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	2.0-10	.20	.28		3.5-6.5
	3-11	15-75	10-70	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	11-17	24-75	10-50	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	17-20	24-85	5-50	1-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-1.0	.24	.28		4.5-6.5
	20-31	24-85	5-50	1-18	1.70-2.00	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		4.5-6.5
	31-72	24-85	5-50	1-18	1.65-1.95	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		5.1-7.3
133C:													
Empeyville----------	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	2	3.5-6.5
	1-3	15-75	10-70	1-18	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	2.0-10	.20	.28		3.5-6.5
	3-11	15-75	10-70	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	11-17	24-75	10-50	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	17-20	24-85	5-50	1-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-1.0	.24	.28		4.5-6.5
	20-31	24-85	5-50	1-18	1.70-2.00	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		4.5-6.5
	31-72	24-85	5-50	1-18	1.65-1.95	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		5.1-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
136A:													
Kendaia-------------	0-9	15-80	10-80	10-27	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-10	.28	.32	3	5.6-7.3
	9-13	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	13-32	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	32-38	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
	38-72	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
136B:													
Kendaia-------------	0-9	15-80	10-80	10-27	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-10	.28	.32	3	5.6-7.3
	9-13	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	13-32	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	32-38	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
	38-72	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
144A:													
Westbury------------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	75-100	---	---	2	3.6-6.0
	1-3	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	55-100	---	---		3.6-6.0
	3-8	15-70	20-70	3-12	0.90-1.20	0.6-2	0.12-0.18	0.0-2.9	2.0-8.0	.24	.32		3.6-6.0
	8-18	15-70	20-65	3-12	1.40-1.70	0.6-2	0.07-0.18	0.0-2.9	1.0-3.0	.24	.32		3.6-6.0
	18-20	15-80	10-50	1-12	1.40-1.70	0.6-2	0.07-0.15	0.0-2.9	0.0-2.0	.24	.28		3.6-6.0
	20-40	15-80	15-50	2-12	1.70-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
	40-72	15-80	15-50	2-12	1.40-2.00	0.0015-0.2	0.02-0.16	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
144B:													
Westbury------------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	75-100	---	---	2	3.6-6.0
	1-3	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	55-100	---	---		3.6-6.0
	3-8	15-70	20-70	3-12	0.90-1.20	0.6-2	0.12-0.18	0.0-2.9	2.0-8.0	.24	.32		3.6-6.0
	8-18	15-70	20-65	3-12	1.40-1.70	0.6-2	0.07-0.18	0.0-2.9	1.0-3.0	.24	.32		3.6-6.0
	18-20	15-80	10-50	1-12	1.40-1.70	0.6-2	0.07-0.15	0.0-2.9	0.0-2.0	.24	.28		3.6-6.0
	20-40	15-80	15-50	2-12	1.70-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
	40-72	15-80	15-50	2-12	1.40-2.00	0.0015-0.2	0.02-0.16	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
146:													
Lyons---------------	0-9	15-70	15-70	15-30	1.10-1.40	0.2-2	0.15-0.23	0.0-2.9	3.0-15	.28	.32	3	5.6-7.3
	9-15	15-70	15-70	15-30	1.10-1.40	0.2-2	0.12-0.19	0.0-2.9	0.0-3.0	.28	.32		6.1-7.8
	15-21	15-70	15-70	15-30	1.10-1.40	0.2-2	0.12-0.19	0.0-2.9	0.0-3.0	.28	.32		6.1-7.8
	21-30	15-70	15-70	15-28	1.10-1.40	0.2-2	0.12-0.19	0.0-2.9	0.0-2.0	.28	.32		6.1-7.8
	30-72	15-75	10-70	18-28	1.20-1.50	0.0015-0.2	0.08-0.18	0.0-2.9	0.0-1.0	.28	.32		6.6-9.0
150:													
Tughill, stony------	0-8	---	---	0-18	0.10-0.40	2-6	0.20-0.60	0.0-2.9	30-100	---	---	3	3.6-5.5
	8-12	15-85	5-80	5-18	1.10-1.40	0.6-2	0.09-0.20	0.0-2.9	10-20	.24	.28		3.6-5.5
	12-16	15-85	5-80	5-18	1.20-1.50	0.6-2	0.06-0.08	0.0-2.9	0.0-3.0	.17	.49		3.6-5.5
	16-30	15-85	5-80	5-18	1.20-1.50	0.2-0.6	0.06-0.08	0.0-2.9	1.0-2.0	.17	.49		3.6-6.0
	30-72	15-85	5-80	5-18	1.50-1.95	0.0015-0.2	0.05-0.07	0.0-2.9	0.0-1.0	.17	.55		5.6-6.5

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
151:													
Chippewa------------	0-7	15-52	28-80	10-27	1.00-1.30	0.6-2	0.18-0.22	0.0-2.9	3.0-10	.28	.32	2	4.5-6.5
	7-14	15-52	28-80	18-35	1.20-1.50	0.6-2	0.10-0.17	0.0-2.9	0.0-2.0	.32	.32		4.5-6.5
	14-16	15-52	28-80	18-35	1.20-1.50	0.6-2	0.10-0.17	0.0-2.9	0.0-2.0	.32	.32		4.5-6.5
	16-42	15-52	28-80	10-35	1.70-2.00	0.0015-0.2	0.01-0.02	0.0-2.9	0.0-1.0	.24	.32		5.1-7.3
	42-72	15-52	28-80	10-35	1.65-1.95	0.03-0.2	0.01-0.02	0.0-2.9	0.0-1.0	.24	.32		5.6-7.8
152B:													
Farmington----------	0-4	15-75	10-80	10-27	1.10-1.40	0.6-2	0.11-0.20	0.0-2.9	2.0-6.0	.28	.32	2	5.1-7.3
	4-8	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	8-14	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	14-18	---	---	---	---	0.0000-20	---	---	---	---	---		---
153C:													
Farmington----------	0-4	15-75	10-80	10-27	1.10-1.40	0.6-2	0.11-0.20	0.0-2.9	2.0-6.0	.28	.32	2	5.1-7.3
	4-8	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	8-14	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	14-18	---	---	---	---	0.0000-20	---	---	---	---	---		---
Rock outcrop--------	0-60	---	---	---	---	0.0000-20	---	---	---	---	---	---	---
153D:													
Farmington----------	0-4	15-75	10-80	10-27	1.10-1.40	0.6-2	0.11-0.20	0.0-2.9	2.0-6.0	.28	.32	2	5.1-7.3
	4-8	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	8-14	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	14-18	---	---	---	---	0.0000-20	---	---	---	---	---		---
155:													
Dannemora, stony----	0-8	15-75	10-75	5-16	1.10-1.40	0.6-6	0.10-0.16	0.0-2.9	2.0-10	.24	.32	2	3.5-6.0
	8-11	15-75	10-75	5-16	1.10-1.40	0.6-6	0.10-0.16	0.0-2.9	0.0-3.0	.24	.32		3.5-6.0
	11-16	15-80	10-70	5-16	1.20-1.50	0.6-6	0.08-0.17	0.0-2.9	0.0-2.0	.24	.32		3.5-6.0
	16-42	15-80	10-70	5-16	1.70-2.00	0.0015-0.2	0.01-0.08	0.0-2.9	0.0-1.0	.24	.32		4.5-6.5
	42-72	24-85	5-50	3-16	1.60-2.00	0.0015-0.2	0.01-0.08	0.0-2.9	0.0-1.0	.24	.28		4.5-7.3
156B:													
Lairdsville, well drained-----------	0-8	15-50	40-80	20-40	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	2.0-7.0	.37	.43	3	5.6-7.3
	8-16	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	16-23	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	23-26	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
	26-30	---	---	---	---	0.0015-0.2	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
156C:													
Lairdsville, well drained------------	0-8	15-50	40-80	20-40	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	2.0-7.0	.37	.43	3	5.6-7.3
	8-16	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	16-23	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	23-26	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
	26-30	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
156E:													
Lairdsville, well drained------------	0-8	15-50	40-80	20-40	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	2.0-7.0	.37	.43	3	5.6-7.3
	8-16	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	16-23	0-45	10-70	35-60	1.40-1.75	0.0015-0.06	0.07-0.16	3.0-5.9	0.0-2.0	.32	.43		5.6-7.8
	23-26	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
	26-30	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
162B:													
Ischua--------------	0-3	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-8.0	.28	.32	3	4.5-6.0
	3-6	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.28	.32		4.5-6.0
	6-18	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	18-23	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	23-33	15-50	28-75	18-35	1.20-1.50	0.06-0.6	0.11-0.18	0.0-2.9	0.0-1.0	.28	.43		4.5-6.5
	33-39	15-50	28-75	18-35	1.60-1.80	0.06-0.6	0.09-0.18	0.0-2.9	0.0-1.0	.28	.49		4.5-6.5
	39-43	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
162C:													
Ischua--------------	0-3	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-8.0	.28	.32	3	4.5-6.0
	3-6	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.28	.32		4.5-6.0
	6-18	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	18-23	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	23-33	15-50	28-75	18-35	1.20-1.50	0.06-0.6	0.11-0.18	0.0-2.9	0.0-1.0	.28	.43		4.5-6.5
	33-39	15-50	28-75	18-35	1.60-1.80	0.06-0.6	0.09-0.18	0.0-2.9	0.0-1.0	.28	.49		4.5-6.5
	39-43	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
162D:													
Ischua--------------	0-3	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-8.0	.28	.32	3	4.5-6.0
	3-6	15-50	28-80	15-35	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	2.0-8.0	.28	.32		4.5-6.0
	6-18	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	18-23	15-50	28-75	18-35	1.20-1.50	0.6-2	0.11-0.18	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	23-33	15-50	28-75	18-35	1.20-1.50	0.06-0.6	0.11-0.18	0.0-2.9	0.0-1.0	.28	.43		4.5-6.5
	33-39	15-50	28-75	18-35	1.60-1.80	0.06-0.6	0.09-0.18	0.0-2.9	0.0-1.0	.28	.49		4.5-6.5
	39-43	---	---	---	---	0.0015-0.2	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
168B:													
Manlius-------------	0-7	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-5.0	.24	.32	3	3.6-6.0
	7-14	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	1.0-5.0	.24	.32		3.6-6.0
	14-24	15-52	28-80	6-18	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.20	.32		3.6-6.0
	24-28	15-52	28-80	6-18	1.70-1.95	0.6-6	0.03-0.09	0.0-2.9	0.0-1.0	.20	.32		4.5-6.5
	28-32	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
168C:													
Manlius-------------	0-7	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-5.0	.24	.32	3	3.6-6.0
	7-14	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	1.0-5.0	.24	.32		3.6-6.0
	14-24	15-52	28-80	6-18	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.20	.32		3.6-6.0
	24-28	15-52	28-80	6-18	1.70-1.95	0.6-6	0.03-0.09	0.0-2.9	0.0-1.0	.20	.32		4.5-6.5
	28-32	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
168D:													
Manlius-------------	0-7	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-5.0	.24	.32	3	3.6-6.0
	7-14	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	1.0-5.0	.24	.32		3.6-6.0
	14-24	15-52	28-80	6-18	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.20	.32		3.6-6.0
	24-28	15-52	28-80	6-18	1.70-1.95	0.6-6	0.03-0.09	0.0-2.9	0.0-1.0	.20	.32		4.5-6.5
	28-32	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
168E:													
Manlius-------------	0-7	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-5.0	.24	.32	3	3.6-6.0
	7-14	15-52	28-80	6-18	1.10-1.40	0.6-6	0.10-0.18	0.0-2.9	1.0-5.0	.24	.32		3.6-6.0
	14-24	15-52	28-80	6-18	1.20-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.20	.32		3.6-6.0
	24-28	15-52	28-80	6-18	1.70-1.95	0.6-6	0.03-0.09	0.0-2.9	0.0-1.0	.20	.32		4.5-6.5
	28-32	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
173B:													
Mongaup-------------	0-6	15-85	15-70	1-18	1.10-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-6.0	.28	.32	3	3.6-5.5
	6-13	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-5.5
	13-20	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	20-26	15-85	15-70	1-18	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		3.6-6.0
	26-30	---	---	---	---	0.0000-0.2	---	---	---	---	---		---
173C:													
Mongaup-------------	0-6	15-85	15-70	1-18	1.10-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-6.0	.28	.32	3	3.6-5.5
	6-13	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-5.5
	13-20	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	20-26	15-85	15-70	1-18	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		3.6-6.0
	26-30	---	---	---	---	0.0000-0.2	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
173E:													
Mongaup-------------	0-6	15-85	15-70	1-18	1.10-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-6.0	.28	.32	3	3.6-5.5
	6-13	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-5.5
	13-20	15-85	15-70	1-18	1.10-1.40	0.6-2	0.08-0.16	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	20-26	15-85	15-70	1-18	1.20-1.60	0.6-2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		3.6-6.0
	26-30	---	---	---	---	0.0000-0.2	---	---	---	---	---		---
176B:													
Nellis--------------	0-7	15-85	10-80	5-18	1.30-1.60	0.6-2	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	3	5.6-7.3
	7-12	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	12-20	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	20-25	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	25-72	24-85	10-50	3-18	1.70-1.85	0.2-2	0.07-0.15	0.0-2.9	0.0-1.0	.32	.43		6.6-8.4
176C:													
Nellis--------------	0-7	15-85	10-80	5-18	1.30-1.60	0.6-2	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	3	5.6-7.3
	7-12	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	12-20	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	20-25	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	25-72	24-85	10-50	3-18	1.70-1.85	0.2-2	0.07-0.15	0.0-2.9	0.0-1.0	.32	.43		6.6-8.4
176D:													
Nellis--------------	0-7	15-85	10-80	5-18	1.30-1.60	0.6-2	0.13-0.20	0.0-2.9	2.0-6.0	.24	.28	3	5.6-7.3
	7-12	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	12-20	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.3
	20-25	15-85	10-70	5-18	1.40-1.70	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	25-72	24-85	10-50	3-18	1.70-1.85	0.2-2	0.07-0.15	0.0-2.9	0.0-1.0	.32	.43		6.6-8.4
195:													
Palms, drained------	0-10	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	0.0-2.9	70-100	---	---	2	5.1-7.8
	10-18	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	0.0-2.9	70-100	---	---		5.1-7.8
	18-24	15-85	5-80	7-35	1.20-1.75	0.2-2	0.10-0.22	0.0-2.9	1.0-3.0	.32	.37		6.1-8.4
	24-72	15-85	5-80	7-35	1.20-1.65	0.2-2	0.10-0.22	0.0-2.9	0.0-1.0	.32	.37		6.1-8.4
200B:													
Bice----------------	0-1	---	---	0-10	0.10-0.35	0.6-6	0.20-0.50	0.0-2.9	100-100	---	---	4	4.5-6.0
	1-2	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---		4.5-6.0
	2-9	15-75	15-70	3-10	1.00-1.25	0.6-6	0.08-0.23	0.0-2.9	2.0-6.0	.20	.24		4.5-6.0
	9-20	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	20-30	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	30-40	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
	40-72	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
200C:													
Bice----------------	0-1	---	---	0-10	0.10-0.35	0.6-6	0.20-0.50	0.0-2.9	100-100	---	---	4	4.5-6.0
	1-2	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---		4.5-6.0
	2-9	15-75	15-70	3-10	1.00-1.25	0.6-6	0.08-0.23	0.0-2.9	2.0-6.0	.20	.24		4.5-6.0
	9-20	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	20-30	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	30-40	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
	40-72	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
200D:													
Bice----------------	0-1	---	---	0-10	0.10-0.35	0.6-6	0.20-0.50	0.0-2.9	100-100	---	---	4	4.5-6.0
	1-2	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---		4.5-6.0
	2-9	15-75	15-70	3-10	1.00-1.25	0.6-6	0.08-0.23	0.0-2.9	2.0-6.0	.20	.24		4.5-6.0
	9-20	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	20-30	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	30-40	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
	40-72	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
200E:													
Bice----------------	0-1	---	---	0-10	0.10-0.35	0.6-6	0.20-0.50	0.0-2.9	100-100	---	---	4	4.5-6.0
	1-2	---	---	0-10	0.10-0.40	0.6-6	0.20-0.60	0.0-2.9	15-100	---	---		4.5-6.0
	2-9	15-75	15-70	3-10	1.00-1.25	0.6-6	0.08-0.23	0.0-2.9	2.0-6.0	.20	.24		4.5-6.0
	9-20	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	20-30	15-75	10-70	3-10	1.40-1.65	0.6-6	0.05-0.20	0.0-2.9	0.0-2.0	.32	.37		4.5-6.0
	30-40	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
	40-72	24-80	10-50	1-8	1.45-1.70	0.2-2	0.05-0.16	0.0-2.9	0.0-1.0	.28	.37		4.5-6.0
212:													
Adrian--------------	0-8	---	---	0-1	0.10-0.55	0.2-6	0.35-0.45	---	80-100	---	---	2	5.1-7.3
	8-12	---	---	0-1	0.10-0.55	0.2-6	0.35-0.45	---	80-100	---	---		5.1-7.3
	12-21	---	---	0-1	0.10-0.55	0.2-6	0.35-0.45	---	80-100	---	---		5.1-7.3
	21-72	70-100	0-29	0-10	1.40-1.75	6-20	0.03-0.08	0.0-2.9	0.0-1.0	.15	.15		6.1-8.4
221B:													
Kalurah-------------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
221C:													
Kalurah-------------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
221D:													
Kalurah-------------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
221E:													
Kalurah-------------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
223A:													
Malone--------------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
223B:													
Malone--------------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
223C:													
Malone--------------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
256D:													
Becket, very bouldery-----------	0-1	---	---	0-8	0.10-0.50	0.6-2	0.16-0.60	0.0-2.9	15-100	---	---	3	3.6-6.5
	1-3	44-85	5-49	2-8	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	2.0-6.0	.28	.32		3.6-6.5
	3-16	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	1.0-3.0	.28	.32		3.6-6.5
	16-24	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	24-34	44-85	5-49	2-7	1.30-1.60	0.6-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.37		3.6-6.5
	34-41	44-85	5-49	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
	41-72	44-90	0-40	1-5	1.60-2.00	0.06-0.6	0.03-0.09	0.0-2.9	0.0-1.0	.17	.24		4.5-7.3
260A:													
Ovid----------------	0-11	15-70	15-80	15-35	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	2.0-7.0	.28	.32	3	5.6-7.3
	11-20	15-70	15-80	15-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	20-26	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	26-32	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	32-39	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	39-72	15-45	15-73	28-35	1.60-1.80	0.06-0.2	0.09-0.16	0.0-2.9	0.0-1.0	.32	.49		7.4-8.4
260B:													
Ovid----------------	0-11	15-70	15-80	15-35	1.00-1.25	0.6-2	0.13-0.21	0.0-2.9	2.0-7.0	.28	.32	3	5.6-7.3
	11-20	15-70	15-80	15-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	20-26	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	26-32	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	32-39	15-45	15-73	28-35	1.20-1.40	0.2-0.6	0.09-0.16	3.0-5.9	0.0-2.0	.32	.37		5.6-7.3
	39-72	15-45	15-73	28-35	1.60-1.80	0.06-0.2	0.09-0.16	0.0-2.9	0.0-1.0	.32	.49		7.4-8.4
267B:													
Greene--------------	0-8	15-32	50-80	0-27	1.00-1.30	0.6-2	0.13-0.19	0.0-2.9	3.0-9.0	.28	.32	3	3.6-5.5
	8-18	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	18-27	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	27-39	15-52	28-80	18-30	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-1.0	.24	.28		5.1-6.0
	39-43	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
267C:													
Greene--------------	0-8	15-32	50-80	0-27	1.00-1.30	0.6-2	0.13-0.19	0.0-2.9	3.0-9.0	.28	.32	3	3.6-5.5
	8-18	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	18-27	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	27-39	15-52	28-80	18-30	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-1.0	.24	.28		5.1-6.0
	39-43	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
269:													
Greene--------------	0-8	15-32	50-80	0-27	1.00-1.30	0.6-2	0.13-0.19	0.0-2.9	3.0-9.0	.28	.32	3	3.6-5.5
	8-18	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	18-27	15-52	28-80	18-35	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-2.0	.24	.28		5.1-6.0
	27-39	15-52	28-80	18-30	1.30-1.60	0.06-0.6	0.12-0.17	0.0-2.9	0.0-1.0	.24	.28		5.1-6.0
	39-43	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
Tuller--------------	0-3	15-52	28-80	10-27	1.10-1.40	0.6-2	0.09-0.15	0.0-2.9	4.0-9.0	.24	.32	2	4.5-6.0
	3-9	15-70	20-80	10-27	1.20-1.50	0.06-0.6	0.06-0.10	0.0-2.9	0.0-2.0	.17	---		4.5-6.0
	9-11	15-70	20-80	10-27	1.20-1.50	0.06-0.6	0.06-0.10	0.0-2.9	0.0-2.0	.17	---		4.5-6.0
	11-15	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
295:													
Carlisle, drained---	0-10	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---	3	4.5-7.8
	10-18	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	18-51	---	---	0-0	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	51-54	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	---	70-100	---	---		4.5-7.8
	54-72	0-85	0-80	4-45	1.10-1.60	0.2-2	0.12-0.22	0.0-2.9	0.0-1.0	---	---		6.1-7.8
350A:													
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
350B:													
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
350C:													
Alton---------------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
355B:													
Arnot---------------	0-7	15-52	28-80	8-18	1.10-1.40	0.6-2	0.10-0.15	0.0-2.9	2.0-6.0	.24	.32	2	3.6-6.0
	7-16	15-52	28-80	8-18	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-2.0	.32	.49		3.6-6.0
	16-19	15-52	28-80	8-18	1.20-1.50	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.32	.49		3.6-6.0
	19-23	---	---	---	---	0.0000-0.0015	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
372A:													
Appleton------------	0-7	15-70	10-80	15-27	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	3.0-7.0	.28	.32	3	5.6-7.3
	7-19	15-70	10-80	18-30	1.20-1.50	0.06-0.6	0.07-0.18	0.0-2.9	0.0-2.0	.32	.43		5.6-7.8
	19-27	15-70	10-80	18-30	1.60-1.85	0.06-0.6	0.07-0.18	0.0-2.9	0.0-2.0	.32	.43		5.6-7.8
	27-72	15-70	10-80	10-27	1.70-1.95	0.06-0.6	0.07-0.17	0.0-2.9	0.0-1.0	.37	.49		7.4-8.4
372B:													
Appleton------------	0-7	15-70	10-80	15-27	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	3.0-7.0	.28	.32	3	5.6-7.3
	7-19	15-70	10-80	18-30	1.20-1.50	0.06-0.6	0.07-0.18	0.0-2.9	0.0-2.0	.32	.43		5.6-7.8
	19-27	15-70	10-80	18-30	1.60-1.85	0.06-0.6	0.07-0.18	0.0-2.9	0.0-2.0	.32	.43		5.6-7.8
	27-72	15-70	10-80	10-27	1.70-1.95	0.06-0.6	0.07-0.17	0.0-2.9	0.0-1.0	.37	.49		7.4-8.4
395:													
Palms---------------	0-10	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	0.0-2.9	70-100	---	---	3	5.1-7.8
	10-18	---	---	0-10	0.10-0.40	0.2-6	0.35-0.45	0.0-2.9	70-100	---	---		5.1-7.8
	18-24	15-85	5-80	7-35	1.20-1.75	0.2-2	0.10-0.22	0.0-2.9	1.0-3.0	.32	.37		6.1-8.4
	24-72	15-85	5-80	7-35	1.20-1.65	0.2-2	0.10-0.22	0.0-2.9	0.0-1.0	.32	.37		6.1-8.4
397:													
Wonsqueak-----------	0-4	---	---	0-10	0.10-0.30	0.2-6	0.20-0.40	0.0-2.9	70-100	---	---	2	4.0-6.5
	4-15	---	---	0-10	0.10-0.40	0.2-6	0.20-0.40	0.0-2.9	70-100	---	---		4.0-6.5
	15-27	---	---	0-10	0.10-0.40	0.2-6	0.20-0.40	0.0-2.9	70-100	---	---		4.5-6.5
	27-72	15-75	20-80	5-30	1.30-1.70	0.2-2	0.06-0.16	0.0-2.9	0.0-2.0	.32	.32		5.1-7.3
398:													
Dawson--------------	0-6	---	---	0-10	0.10-0.40	0.2-6	0.20-0.65	---	65-100	---	---	2	3.6-4.4
	6-20	---	---	0-10	0.10-0.40	0.2-6	0.35-0.65	---	65-100	---	---		3.6-4.4
	20-23	30-100	0-70	0-15	1.55-1.75	0.6-20	0.10-0.20	0.0-2.9	5.0-15	.24	.24		3.6-4.4
	23-72	70-100	0-29	0-10	1.55-1.75	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.10	.15		3.6-6.5
413B:													
Venango-------------	0-5	15-52	28-73	13-23	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-8.0	.28	.32	3	3.6-6.0
	5-11	15-52	28-73	13-23	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	11-23	15-52	28-73	18-30	1.45-1.70	0.6-2	0.15-0.18	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	23-27	15-52	28-73	18-30	1.45-1.70	0.6-2	0.15-0.18	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	27-39	15-52	28-73	18-30	1.60-1.88	0.0015-0.2	0.06-0.09	0.0-2.9	0.0-1.0	.43	.55		4.5-7.3
	39-72	15-52	28-73	12-27	1.55-1.88	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
413C:													
Venango-------------	0-5	15-52	28-73	13-23	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-8.0	.28	.32	3	3.6-6.0
	5-11	15-52	28-73	13-23	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-6.0	.28	.32		3.6-6.0
	11-23	15-52	28-73	18-30	1.45-1.70	0.6-2	0.15-0.18	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	23-27	15-52	28-73	18-30	1.45-1.70	0.6-2	0.15-0.18	0.0-2.9	0.0-2.0	.43	.49		3.6-6.0
	27-39	15-52	28-73	18-30	1.60-1.88	0.0015-0.2	0.06-0.09	0.0-2.9	0.0-1.0	.43	.55		4.5-7.3
	39-72	15-52	28-73	12-27	1.55-1.88	0.0015-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
414B:													
Mardin--------------	0-4	15-52	28-80	10-18	1.10-1.40	0.6-2	0.14-0.19	0.0-2.9	3.0-7.0	.24	.28	2	3.6-6.0
	4-17	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	17-21	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	21-24	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.37		3.6-6.0
	24-59	15-52	28-80	10-18	1.70-2.00	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.49		4.5-6.5
	59-65	15-52	28-80	10-18	1.65-1.95	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.55		5.1-7.8
414C:													
Mardin--------------	0-4	15-52	28-80	10-18	1.10-1.40	0.6-2	0.14-0.19	0.0-2.9	3.0-7.0	.24	.28	2	3.6-6.0
	4-17	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	17-21	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	21-24	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.37		3.6-6.0
	24-59	15-52	28-80	10-18	1.70-2.00	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.49		4.5-6.5
	59-65	15-52	28-80	10-18	1.65-1.95	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.55		5.1-7.8
414D:													
Mardin--------------	0-4	15-52	28-80	10-18	1.10-1.40	0.6-2	0.14-0.19	0.0-2.9	3.0-7.0	.24	.28	2	3.6-6.0
	4-17	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	17-21	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-2.0	.24	.37		3.6-6.0
	21-24	15-52	28-80	10-18	1.20-1.50	0.6-2	0.09-0.16	0.0-2.9	0.0-1.0	.24	.37		3.6-6.0
	24-59	15-52	28-80	10-18	1.70-2.00	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.49		4.5-6.5
	59-65	15-52	28-80	10-18	1.65-1.95	0.0015-0.2	0.01-0.03	0.0-2.9	0.0-1.0	.37	.55		5.1-7.8
461:													
Marcy---------------	0-6	15-52	28-80	18-30	1.10-1.30	0.6-2	0.17-0.21	0.0-2.9	3.0-10	.28	.32	2	5.1-7.3
	6-12	15-52	28-80	18-35	1.20-1.50	0.6-2	0.12-0.18	0.0-2.9	0.0-3.0	.32	.43		5.1-7.3
	12-14	15-52	28-80	18-35	1.20-1.50	0.6-2	0.12-0.18	0.0-2.9	0.0-2.0	.32	.43		5.1-7.3
	14-40	15-52	28-80	18-24	1.60-2.00	0.0015-0.06	0.01-0.04	0.0-2.9	0.0-1.0	.24	.43		5.1-7.3
	40-72	15-52	28-80	18-24	1.50-1.90	0.0015-0.06	0.01-0.04	0.0-2.9	0.0-1.0	.24	.43		5.6-7.8
462:													
Runeberg------------	0-9	24-80	10-50	10-18	1.40-1.55	0.2-0.6	0.15-0.20	0.0-2.9	4.0-15	.24	.28	3	6.1-7.3
	9-12	24-80	10-50	10-18	1.60-1.80	0.2-0.6	0.12-0.18	0.0-2.9	0.0-3.0	.37	.43		6.1-7.3
	12-16	24-80	10-50	10-18	1.60-1.80	0.2-0.6	0.12-0.18	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	16-26	24-80	10-50	10-18	1.60-1.80	0.2-0.6	0.12-0.18	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	26-72	24-80	10-50	5-18	1.60-1.85	0.06-0.6	0.06-0.13	0.0-2.9	0.0-1.0	.37	.43		7.4-8.4
515A:													
Galway, well drained	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
515B:													
Galway, well drained	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---
515C:													
Galway, well drained	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---
565B:													
Aurora--------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-52	28-80	18-27	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	1.0-3.0	.37	.43		5.6-7.8
	10-13	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	13-19	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	19-22	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-1.0	.37	.43		5.6-7.8
	22-26	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
565C:													
Aurora--------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-52	28-80	18-27	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	1.0-3.0	.37	.43		5.6-7.8
	10-13	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	13-19	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	19-22	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-1.0	.37	.43		5.6-7.8
	22-26	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
565D:													
Aurora--------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-52	28-80	18-27	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	1.0-3.0	.37	.43		5.6-7.8
	10-13	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	13-19	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	19-22	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-1.0	.37	.43		5.6-7.8
	22-26	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
565E:													
Aurora--------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	7-10	15-52	28-80	18-27	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	1.0-3.0	.37	.43		5.6-7.8
	10-13	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	13-19	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	19-22	15-50	50-80	18-35	1.60-1.85	0.06-0.2	0.07-0.16	0.0-2.9	0.0-1.0	.37	.43		5.6-7.8
	22-26	---	---	---	---	0.0015-0.2	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
582A:													
Amenia--------------	0-7	15-75	15-80	5-18	1.10-1.40	0.6-2	0.13-0.20	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.8
	7-12	15-75	15-75	5-18	1.10-1.40	0.6-2	0.13-0.20	0.0-2.9	1.0-4.0	.28	.32		5.6-7.8
	12-20	15-75	15-75	5-18	1.30-1.60	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	20-31	15-75	15-75	5-18	1.30-1.60	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	31-72	15-75	10-70	5-18	1.70-1.95	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.43		7.4-8.4
582B:													
Amenia--------------	0-7	15-75	15-80	5-18	1.10-1.40	0.6-2	0.13-0.20	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.8
	7-12	15-75	15-75	5-18	1.10-1.40	0.6-2	0.13-0.20	0.0-2.9	1.0-4.0	.28	.32		5.6-7.8
	12-20	15-75	15-75	5-18	1.30-1.60	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	20-31	15-75	15-75	5-18	1.30-1.60	0.6-2	0.08-0.19	0.0-2.9	0.0-2.0	.37	.43		5.6-7.8
	31-72	15-75	10-70	5-18	1.70-1.95	0.06-0.2	0.08-0.12	0.0-2.9	0.0-1.0	.37	.43		7.4-8.4
747A:													
Manheim-------------	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
747B:													
Manheim-------------	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
747C:													
Manheim-------------	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
750B:													
Minoa---------------	0-9	15-80	10-80	5-18	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	3.0-8.0	.28	.28	4	5.1-7.3
	9-13	15-80	10-70	5-18	1.20-1.50	0.6-2	0.13-0.20	0.0-2.9	0.0-2.0	.28	.32		5.6-7.3
	13-26	15-85	10-70	5-18	1.20-1.50	0.6-2	0.13-0.20	0.0-2.9	0.0-2.0	.28	.32		5.6-7.3
	26-36	15-85	5-60	3-15	1.20-1.50	0.6-2	0.13-0.20	0.0-2.9	0.0-1.0	.28	.32		5.6-7.3
	36-51	15-91	0-60	3-15	1.20-1.50	0.6-6	0.07-0.20	0.0-2.9	0.0-1.0	.20	.24		5.6-8.4
	51-72	15-100	0-60	3-15	1.20-1.50	0.6-6	0.07-0.20	0.0-2.9	0.0-1.0	.20	.24		5.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				pH
790A:													
Conesus-------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	3	5.1-7.3
	7-13	15-52	28-80	18-27	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.43		5.1-7.3
	13-24	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	24-35	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.49		5.1-7.3
	35-42	15-52	28-80	18-28	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
	42-72	15-52	28-80	10-27	1.70-1.95	0.0015-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.55		6.6-8.4
790B:													
Conesus-------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	3	5.1-7.3
	7-13	15-52	28-80	18-27	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.43		5.1-7.3
	13-24	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	24-35	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.49		5.1-7.3
	35-42	15-52	28-80	18-28	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
	42-72	15-52	28-80	10-27	1.70-1.95	0.0015-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.55		6.6-8.4
790C:													
Conesus-------------	0-7	15-52	28-80	10-27	1.10-1.40	0.6-2	0.15-0.20	0.0-2.9	2.0-6.0	.28	.32	3	5.1-7.3
	7-13	15-52	28-80	18-27	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.43		5.1-7.3
	13-24	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.43	.49		5.1-7.3
	24-35	15-52	28-80	18-30	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-2.0	.37	.49		5.1-7.3
	35-42	15-52	28-80	18-28	1.40-1.70	0.6-2	0.09-0.19	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
	42-72	15-52	28-80	10-27	1.70-1.95	0.0015-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.55		6.6-8.4
801B:													
Alton, cool---------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
801C:													
Alton, cool---------	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
802D:													
Howard, cool--------	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-1.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.32		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
802D:													
Alton, cool	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
802E:													
Howard, cool	0-11	15-75	10-80	5-18	1.10-1.40	0.6-6	0.10-0.15	0.0-2.9	2.0-6.0	.20	.28	3	5.1-7.3
	11-20	15-75	10-75	5-20	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	20-29	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-2.0	.17	.32		5.1-7.3
	29-44	15-80	10-70	5-27	1.25-1.55	0.6-6	0.08-0.12	0.0-2.9	0.0-1.0	.17	.32		5.1-7.3
	44-75	20-85	0-49	5-15	1.45-1.65	20-100	0.01-0.10	0.0-2.9	0.0-1.0	.15	.24		6.6-8.4
	75-100	70-100	0-29	0-7	1.45-1.65	20-100	0.01-0.02	0.0-2.9	0.0-0.5	.10	.20		6.6-8.4
Alton, cool	0-9	24-80	10-49	1-12	1.35-1.65	2-6	0.06-0.14	0.0-2.9	2.0-5.0	.20	.28	4	4.5-5.5
	9-24	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	24-40	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-2.0	.17	.28		5.1-7.3
	40-58	24-80	10-49	1-12	1.45-1.65	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.17	.28		5.1-7.3
	58-72	44-100	0-40	0-4	1.45-1.65	6-100	0.02-0.04	0.0-2.9	0.0-0.5	.17	.24		6.6-7.8
804:													
Chippewa, stony	0-7	15-52	28-80	10-27	1.00-1.30	0.6-2	0.18-0.22	0.0-2.9	3.0-10	.28	.32	2	4.5-6.5
	7-14	15-52	28-80	18-35	1.20-1.50	0.6-2	0.10-0.17	0.0-2.9	0.0-2.0	.32	.32		4.5-6.5
	14-16	15-52	28-80	18-35	1.20-1.50	0.6-2	0.10-0.17	0.0-2.9	0.0-2.0	.32	.32		4.5-6.5
	16-42	15-52	28-80	10-35	1.70-2.00	0.0015-0.2	0.01-0.02	0.0-2.9	0.0-1.0	.24	.32		5.1-7.3
	42-72	15-52	28-80	10-35	1.65-1.95	0.03-0.2	0.01-0.02	0.0-2.9	0.0-1.0	.24	.32		5.6-7.8
807A:													
Manheim, cool	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
807B:													
Manheim, cool	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
807C:													
Manheim, cool-------	0-4	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32	3	5.6-7.3
	4-9	15-52	30-80	7-35	1.10-1.40	0.6-2	0.16-0.21	0.0-2.9	3.0-6.0	.28	.32		5.6-7.3
	9-19	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	19-29	15-52	28-80	18-35	1.50-1.70	0.2-0.6	0.10-0.19	0.0-2.9	0.0-2.0	.32	.43		5.6-7.3
	29-41	15-52	28-80	7-35	1.50-1.80	0.06-0.2	0.08-0.16	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
	41-72	15-52	28-80	7-35	1.70-1.95	0.06-0.2	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
811B:													
Empeyville, warm----	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	2	3.5-6.5
	1-3	15-75	10-70	1-18	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	2.0-10	.20	.28		3.5-6.5
	3-11	15-75	10-70	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-8.0	.24	.37		4.5-6.5
	11-17	24-75	10-50	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	17-20	24-85	5-50	1-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-1.0	.24	.28		4.5-6.5
	20-31	24-85	5-50	1-18	1.70-2.00	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		4.5-6.5
	31-72	24-85	5-50	1-18	1.65-1.95	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		5.1-7.3
811C:													
Empeyville, warm----	0-1	---	---	0-10	0.10-0.40	0.2-6	0.20-0.60	0.0-2.9	55-100	---	---	2	3.5-6.5
	1-3	15-75	10-70	1-18	1.10-1.40	0.6-2	0.12-0.20	0.0-2.9	2.0-10	.20	.28		3.5-6.5
	3-11	15-75	10-70	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-8.0	.24	.37		4.5-6.5
	11-17	24-75	10-50	1-18	1.20-1.50	0.6-2	0.10-0.18	0.0-2.9	1.0-3.0	.24	.37		4.5-6.5
	17-20	24-85	5-50	1-18	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-1.0	.24	.28		4.5-6.5
	20-31	24-85	5-50	1-18	1.70-2.00	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		4.5-6.5
	31-72	24-85	5-50	1-18	1.65-1.95	0.06-0.9	0.01-0.10	0.0-2.9	0.0-1.0	.17	.24		5.1-7.3
813B:													
Gretor--------------	0-9	15-32	50-80	0-27	1.00-1.30	0.2-2	0.14-0.19	0.0-2.9	3.0-9.0	.28	.32	3	4.5-6.0
	9-17	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	17-22	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	22-29	15-52	20-80	18-35	1.30-1.65	0.2-2	0.08-0.14	0.0-2.9	0.0-1.0	.28	.32		5.1-6.5
	29-33	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
813C:													
Gretor--------------	0-9	15-32	50-80	0-27	1.00-1.30	0.2-2	0.14-0.19	0.0-2.9	3.0-9.0	.28	.32	3	4.5-6.0
	9-17	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	17-22	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	22-29	15-52	20-80	18-35	1.30-1.65	0.2-2	0.08-0.14	0.0-2.9	0.0-1.0	.28	.32		5.1-6.5
	29-33	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---
814:													
Gretor--------------	0-9	15-32	50-80	0-27	1.00-1.30	0.2-2	0.14-0.19	0.0-2.9	3.0-9.0	.28	.32	3	4.5-6.0
	9-17	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	17-22	15-52	28-80	18-35	1.10-1.40	0.2-2	0.12-0.16	0.0-2.9	0.0-2.0	.28	.43		4.5-6.0
	22-29	15-52	20-80	18-35	1.30-1.65	0.2-2	0.08-0.14	0.0-2.9	0.0-1.0	.28	.32		5.1-6.5
	29-33	---	---	---	---	0.0015-0.2	---	---	0.0-0.0	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
814:													
Torull--------------	0-5	0-50	30-80	0-27	1.10-1.40	0.6-2	0.14-0.18	0.0-2.9	4.0-9.0	.28	.32	2	4.5-6.0
	5-7	0-50	30-80	0-27	1.10-1.40	0.6-2	0.14-0.18	0.0-2.9	4.0-9.0	.28	.32		4.5-6.0
	7-15	0-85	0-80	0-27	1.20-1.50	0.06-0.6	0.08-0.16	0.0-2.9	0.0-2.0	.20	.28		4.5-6.0
	15-19	---	---	---	---	0.0015-0.2	---	---	---	---	---		---
816B:													
Herkimer, cool------	0-8	15-52	28-80	10-18	1.10-1.40	0.6-2	0.10-0.16	0.0-2.9	3.0-7.0	.24	.32	4	5.1-7.3
	8-26	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	26-35	15-70	15-80	10-18	1.25-1.55	0.6-2	0.09-0.20	0.0-2.9	0.0-2.0	.24	.37		5.1-7.3
	35-40	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
	40-72	15-70	10-80	5-10	1.45-1.65	0.6-2	0.09-0.20	0.0-2.9	0.0-1.0	.20	.37		6.6-8.4
818B:													
Kalurah, warm-------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
818C:													
Kalurah, warm-------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
818D:													
Kalurah, warm-------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4
818E:													
Kalurah, warm-------	0-9	15-85	0-80	5-20	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-6.0	.28	.32	4	5.6-7.3
	9-18	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-34	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	34-49	15-85	0-80	5-20	1.20-1.50	0.2-0.6	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.3
	49-66	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.49		6.6-8.4
	66-72	24-85	0-55	5-20	1.60-1.85	0.06-0.2	0.08-0.15	0.0-2.9	0.0-1.0	.43	.55		6.6-8.4

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
819A:													
Kendaia, cool-------	0-9	15-80	10-80	10-27	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-10	.28	.32	3	5.6-7.3
	9-13	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	13-32	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	32-38	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
	38-72	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
819B:													
Kendaia, cool-------	0-9	15-80	10-80	10-27	1.10-1.40	0.6-2	0.12-0.19	0.0-2.9	3.0-10	.28	.32	3	5.6-7.3
	9-13	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	13-32	15-80	10-80	18-27	1.20-1.50	0.6-2	0.09-0.18	0.0-2.9	0.0-2.0	.43	.49		6.1-7.8
	32-38	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
	38-72	15-80	10-80	10-27	1.70-1.95	0.06-0.2	0.05-0.14	0.0-2.9	0.0-1.0	.43	.55		7.4-8.4
823A:													
Malone, warm--------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
823B:													
Malone, warm--------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
823C:													
Malone, warm--------	0-9	15-70	15-70	7-22	1.10-1.40	0.6-2	0.14-0.20	0.0-2.9	3.0-8.0	.28	.32	3	5.6-7.3
	9-14	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	14-18	24-75	15-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-2.0	.37	.43		6.1-7.3
	18-38	24-80	10-50	7-18	1.20-1.50	0.2-2	0.08-0.15	0.0-2.9	0.0-1.0	.37	.43		6.1-7.8
	38-74	24-80	10-50	7-18	1.70-1.90	0.0015-0.6	0.05-0.12	0.0-2.9	0.0-1.0	.37	.49		6.6-8.4
825B:													
Pinckney, warm------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
825C:													
Pinckney, warm------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
825D:													
Pinckney, warm------	0-8	15-75	10-80	8-25	1.10-1.40	0.6-2	0.14-0.21	0.0-2.9	2.0-8.0	.28	.32	3	4.5-6.0
	8-15	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	15-22	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-2.0	.37	.43		4.5-6.0
	22-25	15-75	10-80	8-25	1.20-1.50	0.6-2	0.12-0.20	0.0-2.9	0.0-1.0	.37	.43		4.5-6.0
	25-43	24-80	28-50	8-20	1.60-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.37	.49		5.1-6.5
	43-72	24-80	28-50	8-20	1.60-1.95	0.06-0.6	0.07-0.14	0.0-2.9	0.0-1.0	.37	.49		5.1-7.3
831:													
Tughill, stony, warm	0-8	---	---	0-18	0.10-0.40	2-6	0.20-0.60	0.0-2.9	30-100	---	---	3	3.6-5.5
	8-12	15-85	5-80	5-18	1.10-1.40	0.6-2	0.09-0.20	0.0-2.9	10-20	.24	.28		3.6-5.5
	12-16	15-85	5-80	5-18	1.20-1.50	0.6-2	0.06-0.08	0.0-2.9	0.0-3.0	.17	.49		3.6-5.5
	16-30	15-85	5-80	5-18	1.20-1.50	0.2-0.6	0.06-0.08	0.0-2.9	0.0-2.0	.17	.49		3.6-6.0
	30-72	15-85	5-80	5-18	1.50-1.95	0.0015-0.2	0.05-0.07	0.0-2.9	0.0-1.0	.17	.55		5.6-6.5
833A:													
Westbury, warm------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	75-100	---	---	2	3.6-6.0
	1-3	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	55-100	---	---		3.6-6.0
	3-8	15-70	20-70	3-12	0.90-1.20	0.6-2	0.12-0.18	0.0-2.9	2.0-8.0	.24	.32		3.6-6.0
	8-18	15-70	20-65	3-12	1.40-1.70	0.6-2	0.07-0.18	0.0-2.9	1.0-4.0	.24	.32		3.6-6.0
	18-20	15-80	10-50	1-12	1.40-1.70	0.6-2	0.07-0.15	0.0-2.9	0.0-2.0	.24	.28		3.6-6.0
	20-40	15-80	15-50	2-12	1.70-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
	40-72	15-80	15-50	2-12	1.40-2.00	0.0015-0.2	0.02-0.16	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
833B:													
Westbury, warm------	0-1	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	75-100	---	---	2	3.6-6.0
	1-3	---	---	0-10	0.10-0.40	0.6-2	0.20-0.60	0.0-2.9	55-100	---	---		3.6-6.0
	3-8	15-70	20-70	3-12	0.90-1.20	0.6-2	0.12-0.18	0.0-2.9	2.0-8.0	.24	.32		3.6-6.0
	8-18	15-70	20-65	3-12	1.40-1.70	0.6-2	0.07-0.18	0.0-2.9	1.0-4.0	.24	.32		3.6-6.0
	18-20	15-80	10-50	1-12	1.40-1.70	0.6-2	0.07-0.15	0.0-2.9	0.0-2.0	.24	.28		3.6-6.0
	20-40	15-80	15-50	2-12	1.70-2.00	0.0015-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0
	40-72	15-80	15-50	2-12	1.40-2.00	0.0015-0.2	0.02-0.16	0.0-2.9	0.0-1.0	.24	.28		4.5-6.0

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Soil reaction
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
838B:													
Worth, warm---------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-1.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
838C:													
Worth, warm---------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-1.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
838D:													
Worth, warm---------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-1.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
838E:													
Worth, warm---------	0-8	20-70	15-70	3-18	1.10-1.40	0.6-2	0.10-0.20	0.0-2.9	2.0-8.0	.20	.28	3	3.6-5.5
	8-18	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	18-22	24-70	25-50	3-18	1.20-1.50	0.6-2	0.08-0.18	0.0-2.9	1.0-3.0	.20	.28		4.5-6.0
	22-27	24-90	20-50	3-18	1.20-1.60	0.6-2	0.02-0.18	0.0-2.9	0.0-1.0	.20	.28		4.5-6.0
	27-41	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	41-59	24-80	15-50	3-18	1.70-2.00	0.06-0.2	0.02-0.06	0.0-2.9	0.0-1.0	.20	.28		5.1-6.5
	59-72	24-80	15-50	3-18	1.60-1.95	0.06-0.2	0.03-0.08	0.0-2.9	0.0-1.0	.17	.28		5.6-8.4
842B:													
Farmington, cool----	0-4	15-75	10-80	10-27	1.10-1.40	0.6-2	0.11-0.20	0.0-2.9	2.0-6.0	.28	.32	2	5.1-7.3
	4-8	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	8-14	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	14-18	---	---	---	---	0.0000-20	---	---	---	---	---		---

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
843D:													
Farmington, cool----	0-4	15-75	10-80	10-27	1.10-1.40	0.6-2	0.11-0.20	0.0-2.9	2.0-6.0	.28	.32	2	5.1-7.3
	4-8	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	8-14	15-75	10-80	10-27	1.20-1.50	0.6-2	0.07-0.18	0.0-2.9	0.0-2.0	.28	.32		5.6-7.8
	14-18	---	---	---	---	0.0000-20	---	---	---	---	---		---
Rock outcrop--------	0-60	---	---	---	---	0.0000-20	---	---	---	---	---	---	---
845A:													
Galway, cool--------	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---
845B:													
Galway, cool--------	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---
845C:													
Galway, cool--------	0-5	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32	3	5.6-7.3
	5-8	15-52	28-80	7-18	1.10-1.40	0.6-2	0.15-0.21	0.0-2.9	2.0-6.0	.28	.32		5.6-7.3
	8-17	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-2.0	.43	.49		5.6-7.8
	17-26	15-75	10-80	3-18	1.20-1.50	0.6-2	0.04-0.14	0.0-2.9	0.0-1.0	.43	.49		5.6-7.8
	26-30	---	---	---	---	0.0000-20	---	---	---	---	---		---
858A:													
Chenango, red substratum---------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.20	.28	3	4.5-6.0
	7-20	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	20-33	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	33-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
858B:													
Chenango, red substratum---------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.20	.28	3	4.5-6.0
	7-20	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	20-33	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	33-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8

Table 21.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Soil reaction
										Kw	Kf	T	
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*				*pH*
858C:													
Chenango, red substratum---------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.20	.28	3	4.5-6.0
	7-20	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	20-33	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	33-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
858D:													
Chenango, red substratum---------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.20	.28	3	4.5-6.0
	7-20	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	20-33	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	33-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
858E:													
Chenango, red substratum---------	0-7	15-85	5-80	6-18	1.20-1.50	0.6-6	0.08-0.16	0.0-2.9	2.0-6.0	.20	.28	3	4.5-6.0
	7-20	15-85	5-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-2.0	.17	.43		4.5-6.0
	20-33	15-85	0-80	6-18	1.25-1.55	0.6-6	0.07-0.15	0.0-2.9	0.0-1.0	.17	.43		4.5-6.0
	33-72	70-100	0-29	1-8	1.45-1.65	6-20	0.01-0.05	0.0-2.9	0.0-0.5	.17	.17		5.1-7.8
982:													
Wallkill------------	0-8	15-75	15-80	10-30	1.15-1.40	0.6-2	0.16-0.21	0.0-2.9	4.0-12	.32	.32	4	5.1-7.8
	8-12	15-75	15-80	15-30	1.15-1.45	0.6-2	0.15-0.20	0.0-2.9	0.5-8.0	.37	.43		5.1-7.8
	12-22	15-75	15-80	15-35	1.15-1.45	0.6-2	0.15-0.20	0.0-2.9	0.2-3.0	.37	.43		5.1-7.8
	22-34	---	---	0-10	0.10-0.45	2-20	0.35-0.45	0.0-2.9	30-100	---	---		5.1-7.8
	34-56	---	---	0-10	0.10-0.45	2-20	0.35-0.45	0.0-2.9	30-100	---	---		5.1-7.8
	56-72	15-100	0-80	0-35	1.15-1.70	2-20	0.03-0.20	0.0-2.9	0.0-1.0	.17	.20		5.1-8.4
W:													
Water.													

Table 22.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
1:									
Udifluvents, frequently flooded	---	---	---	---	---	---	Moderate	High	High
Fluvaquents, frequently flooded, warm	---	---	---	---	---	---	High	High	Low
2:									
Hamlin	---	---	---	---	---	---	High	Low	Low
4:									
Wakeville, occasionally flooded	---	---	---	---	---	---	High	Moderate	Low
7:									
Wayland	---	---	---	---	---	---	High	High	Low
9:									
Wenonah	---	---	---	---	---	---	Moderate	Low	Low
10:									
Otego	---	---	---	---	---	---	High	Moderate	Moderate
12B:									
Herkimer	---	---	---	---	---	---	Moderate	Moderate	Low
12C:									
Herkimer	---	---	---	---	---	---	Moderate	Moderate	Low
13:									
Fluvaquents, frequently flooded, cool	---	---	---	---	---	---	High	High	Low
Borosaprists	---	---	---	---	20-26	47-59	High	High	High
20:									
Pits, sand and gravel.									

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	*In*		*In*	*In*			
21:									
Udorthents, refuse substratum.									
22:									
Udorthents, smoothed.									
23:									
Urban land-------------	Cemented horizon	0	---	Indurated	---	---	---	---	---
24A:									
Howard-----------------	---	---	---	---	---	---	Moderate	Low	Low
24B:									
Howard-----------------	---	---	---	---	---	---	Moderate	Low	Low
24C:									
Howard-----------------	---	---	---	---	---	---	Moderate	Low	Low
25:									
Pits, quarry-----------	Lithic bedrock	0-40	---	---	---	---	---	---	---
27A:									
Nicholville------------	---	---	---	---	---	---	High	Low	Moderate
27B:									
Nicholville------------	---	---	---	---	---	---	High	Low	Moderate
28A:									
Phelps-----------------	---	---	---	---	---	---	High	Moderate	Low
28B:									
Phelps-----------------	---	---	---	---	---	---	High	Moderate	Low
30:									
Fredon, somewhat poorly drained---------------	---	---	---	---	---	---	High	Low	Low
Fredon, poorly drained	---	---	---	---	---	---	High	Low	Low
31:									
Halsey-----------------	---	---	---	---	---	---	High	High	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
33A:									
Alton	---	---	---	---	---	---	Moderate	Low	High
Urban land	Cemented horizon	0	---	Indurated	---	---	---	---	---
33B:									
Alton	---	---	---	---	---	---	Moderate	Low	High
Urban land	Cemented horizon	0	---	Indurated	---	---	---	---	---
34D:									
Howard	---	---	---	---	---	---	Moderate	Low	Low
Alton	---	---	---	---	---	---	Moderate	Low	High
34E:									
Howard	---	---	---	---	---	---	Moderate	Low	Low
Alton	---	---	---	---	---	---	Moderate	Low	High
35A:									
Unadilla	---	---	---	---	---	---	High	Low	Moderate
35B:									
Unadilla	---	---	---	---	---	---	High	Low	Moderate
35C:									
Unadilla	---	---	---	---	---	---	High	Low	Moderate
36B:									
Salmon	---	---	---	---	---	---	High	Low	Moderate
38A:									
Chenango	---	---	---	---	---	---	Moderate	Low	Moderate
38B:									
Chenango	---	---	---	---	---	---	Moderate	Low	Moderate
38C:									
Chenango	---	---	---	---	---	---	Moderate	Low	Moderate
38D:									
Chenango	---	---	---	---	---	---	Moderate	Low	Moderate
38E:									
Chenango	---	---	---	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	*In*		*In*	*In*			
39A:									
Knickerbocker----------	---	---	---	---	---	---	Low	Low	Moderate
39B:									
Knickerbocker----------	---	---	---	---	---	---	Low	Low	Moderate
39C:									
Knickerbocker----------	---	---	---	---	---	---	Low	Low	Moderate
41:									
Niagara----------------	---	---	---	---	---	---	High	High	Low
42:									
Castile----------------	---	---	---	---	---	---	High	Moderate	Moderate
43:									
Jebavy-----------------	Ortstein	10-20	8-14	Strongly cemented	---	---	Moderate	High	High
46A:									
Colosse----------------	---	---	---	---	---	---	Moderate	Low	High
46B:									
Colosse----------------	---	---	---	---	---	---	Moderate	Low	High
46C:									
Colosse----------------	---	---	---	---	---	---	Moderate	Low	High
46D:									
Colosse----------------	---	---	---	---	---	---	Moderate	Low	High
47A:									
Scio-------------------	---	---	---	---	---	---	High	Moderate	Moderate
47B:									
Scio-------------------	---	---	---	---	---	---	High	Moderate	Moderate
50:									
Wareham----------------	---	---	---	---	---	---	Moderate	Moderate	High
54D:									
Colton-----------------	---	---	---	---	---	---	Low	Low	High
55A:									
Adams------------------	---	---	---	---	---	---	Low	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
55B:									
Adams------------------	---	---	---	---	---	---	Low	Low	High
55C:									
Adams------------------	---	---	---	---	---	---	Low	Low	High
55D:									
Adams------------------	---	---	---	---	---	---	Low	Low	High
55E:									
Adams------------------	---	---	---	---	---	---	Low	Low	High
56B:									
Becket, very bouldery--	Dense material	24-36	---	---	---	---	Moderate	Low	Moderate
Skerry, very bouldery--	Dense material	20-36	---	---	---	---	Moderate	Low	Moderate
56C:									
Becket, very bouldery--	Dense material	24-36	---	---	---	---	Moderate	Low	Moderate
Skerry, very bouldery--	Dense material	20-36	---	---	---	---	Moderate	Low	Moderate
57A:									
Croghan----------------	---	---	---	---	---	---	Low	Low	High
57B:									
Croghan----------------	---	---	---	---	---	---	Low	Low	High
60B:									
Adirondack, somewhat poorly drained, very bouldery--------------	Dense material	20-50	---	---	---	---	High	High	High
Adirondack, poorly drained, very bouldery	Dense material	20-50	---	---	---	---	High	High	High
61A:									
Schoharie--------------	---	---	---	---	---	---	Moderate	High	Low
61B:									
Schoharie--------------	---	---	---	---	---	---	Moderate	High	Low
61C:									
Schoharie--------------	---	---	---	---	---	---	Moderate	High	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
61E:									
Schoharie	---	---	---	---	---	---	Moderate	High	Low
62C:									
Becket, very bouldery	Dense material	24-36	---	---	---	---	Moderate	Low	Moderate
Tunbridge, very bouldery	Lithic bedrock	20-40	---	---	---	---	Moderate	High	High
62D:									
Becket, very bouldery	Dense material	24-36	---	---	---	---	Moderate	Low	Moderate
Tunbridge, very bouldery	Lithic bedrock	20-40	---	---	---	---	Moderate	High	High
63A:									
Wallington	Fragipan	12-24	6-48	---	---	---	High	High	Moderate
63B:									
Wallington	Fragipan	12-24	6-48	---	---	---	High	High	Moderate
64A:									
Rhinebeck	---	---	---	---	---	---	High	High	Low
64B:									
Rhinebeck	---	---	---	---	---	---	High	High	Low
65F:									
Tunbridge, very bouldery	Lithic bedrock	20-40	---	---	---	---	Moderate	High	High
Lyman	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	High
68:									
Wakeville, rarely flooded	---	---	---	---	---	---	High	Moderate	Low
72:									
Canandaigua	---	---	---	---	---	---	High	High	Low
74B:									
Berkshire	---	---	---	---	---	---	Moderate	Low	Moderate
74C:									
Berkshire	---	---	---	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
75:									
Lamson	---	---	---	---	---	---	High	High	Low
76:									
Niagara	---	---	---	---	---	---	High	High	Low
77A:									
Collamer	---	---	---	---	---	---	High	Moderate	Low
77B:									
Collamer	---	---	---	---	---	---	High	Moderate	Low
77C:									
Collamer	---	---	---	---	---	---	High	Moderate	Low
77D:									
Collamer	---	---	---	---	---	---	High	Moderate	Low
78A:									
Arkport	---	---	---	---	---	---	Moderate	Low	Moderate
78B:									
Arkport	---	---	---	---	---	---	Moderate	Low	Moderate
78C:									
Arkport	---	---	---	---	---	---	Moderate	Low	Moderate
79A:									
Roundabout	---	---	---	---	---	---	High	High	Low
79B:									
Roundabout	---	---	---	---	---	---	High	High	Low
81A:									
Covert	---	---	---	---	---	---	Low	Low	Moderate
81B:									
Covert	---	---	---	---	---	---	Low	Low	Moderate
90A:									
Windsor	---	---	---	---	---	---	Low	Low	High
90B:									
Windsor	---	---	---	---	---	---	Low	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
90C:									
Windsor----------------	---	---	---	---	---	---	Low	Low	High
90D:									
Windsor----------------	---	---	---	---	---	---	Low	Low	High
90E:									
Windsor----------------	---	---	---	---	---	---	Low	Low	High
92:									
Napoleon---------------	---	---	---	---	22-26	50-59	High	Moderate	High
94:									
Naumburg, somewhat poorly drained--------	---	---	---	---	---	---	Moderate	Low	High
Naumburg, poorly drained---------------	---	---	---	---	---	---	Moderate	High	High
95:									
Carlisle---------------	---	---	---	---	20-26	43-54	High	High	Low
99:									
Greenwood--------------	---	---	---	---	22-26	50-59	High	High	High
102B:									
Honeoye----------------	Dense material	20-32	---	---	---	---	Moderate	Low	Low
102C:									
Honeoye----------------	Dense material	20-32	---	---	---	---	Moderate	Low	Low
102D:									
Honeoye----------------	Dense material	20-32	---	---	---	---	Moderate	Low	Low
103B:									
Honeoye----------------	Dense material	20-32	---	---	---	---	Moderate	Low	Low
Urban land-------------	Cemented horizon	0	---	Indurated	---	---	---	---	---
104E:									
Honeoye----------------	Dense material	20-32	---	---	---	---	Moderate	Low	Low
Cazenovia--------------	---	---	---	---	---	---	Moderate	High	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
109B:									
Cazenovia	---	---	---	---	---	---	Moderate	High	Low
109C:									
Cazenovia	---	---	---	---	---	---	Moderate	High	Low
109D:									
Cazenovia	---	---	---	---	---	---	Moderate	High	Low
111B:									
Lansing	Dense material	32-60	---	---	---	---	Moderate	Low	Low
111C:									
Lansing	Dense material	32-60	---	---	---	---	Moderate	Low	Low
111D:									
Lansing	Dense material	32-60	---	---	---	---	Moderate	Low	Low
111E:									
Lansing	Dense material	32-60	---	---	---	---	Moderate	Low	Low
113A:									
Camroden	Fragipan	14-21	14-48	---	---	---	High	High	Moderate
113B:									
Camroden	Fragipan	14-21	14-48	---	---	---	High	High	Moderate
113C:									
Camroden	Fragipan	14-21	14-48	---	---	---	High	High	Moderate
114B:									
Pinckney	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate
114C:									
Pinckney	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate
114D:									
Pinckney	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate
115B:									
Chadakoin	---	---	---	---	---	---	Moderate	Low	High
115C:									
Chadakoin	---	---	---	---	---	---	Moderate	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
115D:									
Chadakoin	---	---	---	---	---	---	Moderate	Low	High
115E:									
Chadakoin	---	---	---	---	---	---	Moderate	Low	High
117A:									
Pittsfield	---	---	---	---	---	---	Moderate	Low	Low
117B:									
Pittsfield	---	---	---	---	---	---	Moderate	Low	Low
117C:									
Pittsfield	---	---	---	---	---	---	Moderate	Low	Low
117D:									
Pittsfield	---	---	---	---	---	---	Moderate	Low	Low
117E:									
Pittsfield	---	---	---	---	---	---	Moderate	Low	Low
119B:									
Pyrities	---	---	---	---	---	---	Moderate	Low	Low
119C:									
Pyrities	---	---	---	---	---	---	Moderate	Low	Low
119D:									
Pyrities	---	---	---	---	---	---	Moderate	Low	Low
119E:									
Pyrities	---	---	---	---	---	---	Moderate	Low	Low
120C:									
Pyrities, rolling, very bouldery	---	---	---	---	---	---	Moderate	Low	Low
121B:									
Worth	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
121C:									
Worth	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
121D:									
Worth	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
121E:									
Worth	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
126A:									
Lima	Dense material	20-30	---	---	---	---	Moderate	Moderate	Low
126B:									
Lima	Dense material	20-30	---	---	---	---	Moderate	Moderate	Low
126C:									
Lima	Dense material	20-30	---	---	---	---	Moderate	Moderate	Low
133B:									
Empeyville	Fragipan	14-22	8-46	---	---	---	Moderate	Low	High
133C:									
Empeyville	Fragipan	14-22	8-46	---	---	---	Moderate	Low	High
136A:									
Kendaia	---	---	---	---	---	---	High	High	Low
136B:									
Kendaia	---	---	---	---	---	---	High	High	Low
144A:									
Westbury	Fragipan	10-24	16-50	---	---	---	High	Moderate	High
144B:									
Westbury	Fragipan	10-24	16-50	---	---	---	High	Moderate	High
146:									
Lyons	---	---	---	---	---	---	High	High	Low
150:									
Tughill, stony	---	---	---	---	---	---	High	High	High
151:									
Chippewa	Fragipan	8-20	10-48	---	---	---	High	High	Moderate
152B:									
Farmington	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
153C:									
Farmington	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	Moderate
Rock outcrop	Lithic bedrock	0	---	---	---	---	---	---	---
153D:									
Farmington	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	Moderate
155:									
Dannemora, stony	Fragipan	12-20	10-48	---	---	---	High	High	High
156B:									
Lairdsville, well drained	Paralithic bedrock	20-40	---	---	---	---	Moderate	High	Low
	Lithic bedrock	20-40	---	---					
156C:									
Lairdsville, well drained	Paralithic bedrock	20-40	---	---	---	---	Moderate	High	Low
	Lithic bedrock	20-40	---	---					
156E:									
Lairdsville, well drained	Paralithic bedrock	20-40	---	---	---	---	Moderate	High	Low
	Lithic bedrock	20-40	---	---					
162B:									
Ischua	Lithic bedrock	20-40	---	---	---	---	Moderate	Moderate	High
162C:									
Ischua	Lithic bedrock	20-40	---	---	---	---	Moderate	Moderate	High
162D:									
Ischua	Lithic bedrock	20-40	---	---	---	---	Moderate	Moderate	High
168B:									
Manlius	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
168C:									
Manlius	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
168D:									
Manlius	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
168E:									
Manlius	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
173B:									
Mongaup	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
173C:									
Mongaup	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
173E:									
Mongaup	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Moderate
176B:									
Nellis	---	---	---	---	---	---	Moderate	Low	Low
176C:									
Nellis	---	---	---	---	---	---	Moderate	Low	Low
176D:									
Nellis	---	---	---	---	---	---	Moderate	Low	Low
195:									
Palms, drained	---	---	---	---	---	16-36	High	High	Moderate
200B:									
Bice	---	---	---	---	---	---	Moderate	Low	High
200C:									
Bice	---	---	---	---	---	---	Moderate	Low	High
200D:									
Bice	---	---	---	---	---	---	Moderate	Low	High
200E:									
Bice	---	---	---	---	---	---	Moderate	Low	High
212:									
Adrian	---	---	---	---	---	16-36	High	High	Moderate
221B:									
Kalurah	---	---	---	---	---	---	High	Moderate	Low
221C:									
Kalurah	---	---	---	---	---	---	High	Moderate	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	*In*		*In*	*In*			
221D:									
Kalurah----------------	---	---	---	---	---	---	High	Moderate	Low
221E:									
Kalurah----------------	---	---	---	---	---	---	High	Moderate	Low
223A:									
Malone-----------------	Dense material	18-38	---	---	---	---	High	High	Moderate
223B:									
Malone-----------------	Dense material	18-38	---	---	---	---	High	High	Moderate
223C:									
Malone-----------------	Dense material	18-38	---	---	---	---	High	High	Moderate
256D:									
Becket, very bouldery--	Dense material	24-36	---	---	---	---	Moderate	Low	Moderate
260A:									
Ovid-------------------	---	---	---	---	---	---	High	High	Low
260B:									
Ovid-------------------	---	---	---	---	---	---	High	High	Low
267B:									
Greene-----------------	Lithic bedrock	20-40	---	---	---	---	High	High	High
267C:									
Greene-----------------	Lithic bedrock	20-40	---	---	---	---	High	High	High
269:									
Greene-----------------	Lithic bedrock	20-40	---	---	---	---	High	High	High
Tuller-----------------	Lithic bedrock	10-20	---	---	---	---	High	High	High
295:									
Carlisle, drained------	---	---	---	---	20-26	43-54	High	High	Low
350A:									
Alton------------------	---	---	---	---	---	---	Moderate	Low	High
350B:									
Alton------------------	---	---	---	---	---	---	Moderate	Low	High
350C:									
Alton------------------	---	---	---	---	---	---	Moderate	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
355B:									
Arnot------------------	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	High
372A:									
Appleton---------------	---	---	---	---	---	---	High	High	Low
372B:									
Appleton---------------	---	---	---	---	---	---	High	High	Low
395:									
Palms------------------	---	---	---	---	---	16-36	High	High	Moderate
397:									
Wonsqueak--------------	---	---	---	---	---	16-36	High	Moderate	Moderate
398:									
Dawson-----------------	---	---	---	---	---	16-36	High	High	High
413B:									
Venango----------------	Fragipan	14-28	8-58	---	---	---	High	High	High
413C:									
Venango----------------	Fragipan	14-28	8-58	---	---	---	High	High	High
414B:									
Mardin-----------------	Fragipan	14-26	12-58	---	---	---	Moderate	Moderate	Low
414C:									
Mardin-----------------	Fragipan	14-26	12-58	---	---	---	Moderate	Moderate	Low
414D:									
Mardin-----------------	Fragipan	14-26	12-58	---	---	---	Moderate	Moderate	Low
461:									
Marcy------------------	Fragipan	12-18	18-38	---	---	---	High	High	Low
462:									
Runeberg---------------	---	---	---	---	---	---	High	High	Low
515A:									
Galway, well drained---	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low
515B:									
Galway, well drained---	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
515C:									
Galway, well drained---	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low
565B:									
Aurora-----------------	Paralithic bedrock	20-40	---	---	---	---	Moderate	Moderate	Low
	Lithic bedrock	20-40	---	---					
565C:									
Aurora-----------------	Paralithic bedrock	20-40	---	---	---	---	Moderate	Moderate	Low
	Lithic bedrock	20-40	---	---					
565D:									
Aurora-----------------	Paralithic bedrock	20-40	---	---	---	---	Moderate	Moderate	Low
	Lithic bedrock	20-40	---	---					
565E:									
Aurora-----------------	Paralithic bedrock	20-40	---	---	---	---	Moderate	Moderate	Low
	Lithic bedrock	20-40	---	---					
582A:									
Amenia-----------------	---	---	---	---	---	---	Moderate	Moderate	Low
582B:									
Amenia-----------------	---	---	---	---	---	---	Moderate	Moderate	Low
747A:									
Manheim----------------	Dense material	24-60	---	---	---	---	High	High	Low
747B:									
Manheim----------------	Dense material	24-60	---	---	---	---	High	High	Low
747C:									
Manheim----------------	Dense material	24-60	---	---	---	---	High	High	Low
750B:									
Minoa------------------	---	---	---	---	---	---	High	Moderate	Moderate
790A:									
Conesus----------------	Dense material	30-50	---	---	---	---	Moderate	Moderate	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
790B:									
Conesus	Dense material	30-50	---	---	---	---	Moderate	Moderate	Low
790C:									
Conesus	Dense material	30-50	---	---	---	---	Moderate	Moderate	Low
801B:									
Alton, cool	---	---	---	---	---	---	Moderate	Low	High
801C:									
Alton, cool	---	---	---	---	---	---	Moderate	Low	High
802D:									
Howard, cool	---	---	---	---	---	---	Moderate	Low	Low
Alton, cool	---	---	---	---	---	---	Moderate	Low	High
802E:									
Howard, cool	---	---	---	---	---	---	Moderate	Low	Low
Alton, cool	---	---	---	---	---	---	Moderate	Low	High
804:									
Chippewa, stony	Fragipan	8-20	10-48	---	---	---	High	High	Moderate
807A:									
Manheim, cool	Dense material	24-60	---	Weakly cemented	---	---	High	High	Low
807B:									
Manheim, cool	Dense material	24-60	---	Weakly cemented	---	---	High	High	Low
807C:									
Manheim, cool	Dense material	24-60	---	Weakly cemented	---	---	High	High	Low
811B:									
Empeyville, warm	Fragipan	14-22	8-46	---	---	---	Moderate	Low	High
811C:									
Empeyville, warm	Fragipan	14-22	8-46	---	---	---	Moderate	Low	High
813B:									
Gretor	Lithic bedrock	20-40	---	---	---	---	High	High	High
813C:									
Gretor	Lithic bedrock	20-40	---	---	---	---	High	High	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
814:									
Gretor	Lithic bedrock	20-40	---	---	---	---	High	High	High
Torull	Lithic bedrock	10-20	---	---	---	---	High	High	High
816B:									
Herkimer, cool	---	---	---	---	---	---	Moderate	Moderate	Low
818B:									
Kalurah, warm	---	---	---	---	---	---	Moderate	Moderate	Low
818C:									
Kalurah, warm	---	---	---	---	---	---	Moderate	Moderate	Low
818D:									
Kalurah, warm	---	---	---	---	---	---	Moderate	Moderate	Low
818E:									
Kalurah, warm	---	---	---	---	---	---	Moderate	Moderate	Low
819A:									
Kendaia, cool	---	---	---	---	---	---	High	High	Low
819B:									
Kendaia, cool	---	---	---	---	---	---	High	High	Low
823A:									
Malone, warm	Dense material	18-38	---	---	---	---	High	High	Moderate
823B:									
Malone, warm	Dense material	18-38	---	---	---	---	High	High	Moderate
823C:									
Malone, warm	Dense material	18-38	---	---	---	---	High	High	Moderate
825B:									
Pinckney, warm	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate
825C:									
Pinckney, warm	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate
825D:									
Pinckney, warm	Fragipan	20-30	8-50	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	*In*		*In*	*In*			
831:									
Tughill, stony, warm	---	---	---	---	---	---	High	High	High
833A:									
Westbury, warm	Fragipan	10-24	16-50	---	---	---	High	Moderate	High
833B:									
Westbury, warm	Fragipan	10-24	16-50	---	---	---	High	Moderate	High
838B:									
Worth, warm	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
838C:									
Worth, warm	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
838D:									
Worth, warm	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
838E:									
Worth, warm	Fragipan	24-36	6-32	---	---	---	Moderate	Low	High
842B:									
Farmington, cool	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	Moderate
843D:									
Farmington, cool	Lithic bedrock	10-20	---	---	---	---	Moderate	Low	Moderate
Rock outcrop	Lithic bedrock	0	---	---	---	---	---	---	---
845A:									
Galway, cool	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low
845B:									
Galway, cool	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low
845C:									
Galway, cool	Lithic bedrock	20-40	---	---	---	---	Moderate	Low	Low
858A:									
Chenango, red substratum	---	---	---	---	---	---	Moderate	Low	Moderate
858B:									
Chenango, red substratum	---	---	---	---	---	---	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	*In*		*In*	*In*			
858C:									
Chenango, red substratum	---	---	---	---	---	---	Moderate	Low	Moderate
858D:									
Chenango, red substratum	---	---	---	---	---	---	Moderate	Low	Moderate
858E:									
Chenango, red substratum	---	---	---	---	---	---	Moderate	Low	Moderate
982:									
Wallkill	---	---	---	---	---	---	High	Moderate	Moderate
W:									
Water.									

Table 23.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
1:									
Udifluvents, frequently flooded	B								
		January	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		February	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		March	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		April	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		May	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		June	---	---	---	---	None	Brief	Frequent
		October	---	---	---	---	None	Brief	Frequent
		November	2.0-6.0	>6.0	---	---	None	Brief	Frequent
		December	2.0-6.0	>6.0	---	---	None	Brief	Frequent
Fluvaquents, frequently flooded, warm	---								
		January	0.0-1.5	>6.0	---	---	None	Long	Frequent
		February	0.0-1.5	>6.0	---	---	None	Long	Frequent
		March	0.0-1.5	>6.0	---	---	None	Long	Frequent
		April	0.0-1.5	>6.0	---	---	None	Long	Frequent
		May	0.0-1.5	>6.0	---	---	None	Long	Frequent
		June	0.0-1.5	>6.0	---	---	None	Long	Frequent
		October	0.0-1.5	>6.0	---	---	None	Long	Frequent
		November	0.0-1.5	>6.0	---	---	None	Long	Frequent
		December	0.0-1.5	>6.0	---	---	None	Long	Frequent
2:									
Hamlin	B								
		January	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		February	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		March	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		April	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		May	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		November	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		December	3.0-6.0	>6.0	---	---	None	Brief	Occasional

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
4:									
Wakeville, occasionally flooded------------------	B								
		January	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		February	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		March	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		April	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		May	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		June	0.5-1.5	>6.0	---	---	None	---	---
		November	0.5-1.5	>6.0	---	---	None	Brief	Occasional
		December	0.5-1.5	>6.0	---	---	None	Brief	Occasional
7:									
Wayland-------------------	C/D								
		January	0.0-1.0	>6.0	---	---	None	Long	Frequent
		February	0.0-1.0	>6.0	---	---	None	Long	Frequent
		March	0.0-1.0	>6.0	---	---	None	Long	Frequent
		April	0.0-1.0	>6.0	---	---	None	Long	Frequent
		May	0.0-1.0	>6.0	---	---	None	Long	Frequent
		June	0.0-1.0	>6.0	---	---	None	Long	Frequent
		November	0.0-1.0	>6.0	---	---	None	Long	Frequent
		December	0.0-1.0	>6.0	---	---	None	Long	Frequent
9:									
Wenonah-------------------	B								
		January	---	---	---	---	None	Brief	Occasional
		February	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		March	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		April	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
		November	---	---	---	---	None	Brief	Occasional
		December	---	---	---	---	None	Brief	Occasional
10:									
Otego---------------------	B								
		January	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		February	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		March	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		April	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		May	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		June	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		November	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		December	1.5-2.5	>6.0	---	---	None	Brief	Occasional

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
12B:									
Herkimer------------------	B								
		February	2.0-3.0	>6.0	---	---	None	---	None
		March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	---	None
		May	2.0-3.0	>6.0	---	---	None	---	None
12C:									
Herkimer------------------	B								
		February	2.0-3.0	>6.0	---	---	None	---	None
		March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	---	None
		May	2.0-3.0	>6.0	---	---	None	---	None
13:									
Fluvaquents, frequently flooded, cool------------	---								
		January	0.0-1.5	>6.0	---	---	None	Long	Frequent
		February	0.0-1.5	>6.0	---	---	None	Long	Frequent
		March	0.0-1.5	>6.0	---	---	None	Long	Frequent
		April	0.0-1.5	>6.0	---	---	None	Long	Frequent
		May	0.0-1.5	>6.0	---	---	None	Long	Frequent
		June	0.0-1.5	>6.0	---	---	None	Long	Frequent
		October	0.0-1.5	>6.0	---	---	None	Long	Frequent
		November	0.0-1.5	>6.0	---	---	None	Long	Frequent
		December	0.0-1.5	>6.0	---	---	None	Long	Frequent
Borosaprists--------------	---								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		July	0.0-1.0	>6.0	---	---	---	---	None
		August	0.0-1.0	>6.0	---	---	---	---	None
		September	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		October	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
20:									
Pits, sand and gravel-----	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
21:									
Udorthents, refuse substratum	---								
		January	3.0-6.0	>6.0	---	---	None	---	None
		February	3.0-6.0	>6.0	---	---	None	---	None
		March	3.0-6.0	>6.0	---	---	None	---	None
		April	3.0-6.0	>6.0	---	---	None	---	None
		May	3.0-6.0	>6.0	---	---	None	---	None
		November	3.0-6.0	>6.0	---	---	None	---	None
		December	3.0-6.0	>6.0	---	---	None	---	None
22:									
Udorthents, smoothed	---								
		January	3.0-6.0	>6.0	---	---	None	---	None
		February	3.0-6.0	>6.0	---	---	None	---	None
		March	3.0-6.0	>6.0	---	---	None	---	None
		April	3.0-6.0	>6.0	---	---	None	---	None
		May	3.0-6.0	>6.0	---	---	None	---	None
		November	3.0-6.0	>6.0	---	---	None	---	None
		December	3.0-6.0	>6.0	---	---	None	---	None
23:									
Urban land.									
24A:									
Howard	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
24B:									
Howard	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
24C:									
Howard	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
25:									
Pits, quarry	---	Jan-Dec	>6.0	>6.0	---	---	None	---	None
27A:									
Nicholville	C								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
27B:									
Nicholville	C								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
28A:									
Phelps	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
28B:									
Phelps	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
30:									
Fredon, somewhat poorly drained	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		June	0.5-1.5	>6.0	---	---	None	---	None
		October	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
30:									
Fredon, poorly drained----	C								
		January	0.0-1.0	>6.0	---	---	None	---	None
		February	0.0-1.0	>6.0	---	---	None	---	None
		March	0.0-1.0	>6.0	---	---	None	---	None
		April	0.0-1.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.5-1.5	>6.0	---	---	None	---	None
		October	0.5-1.5	>6.0	---	---	None	---	None
		November	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	---	None
31:									
Halsey--------------------	C/D								
		January	0.0-0.5	>6.0	---	---	None	Brief	Rare
		February	0.0-0.5	>6.0	---	---	None	Brief	Rare
		March	0.0-0.5	>6.0	---	---	None	Brief	Rare
		April	0.0-0.5	>6.0	---	---	None	Brief	Rare
		May	0.0-0.5	>6.0	---	---	None	Brief	Rare
		June	0.0-0.5	>6.0	---	---	None	---	---
		September	0.0-0.5	>6.0	---	---	None	---	---
		October	0.0-0.5	>6.0	---	---	None	---	---
		November	0.0-0.5	>6.0	---	---	None	Brief	Rare
		December	0.0-0.5	>6.0	---	---	None	Brief	Rare
33A:									
Alton---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Urban land.									
33B:									
Alton---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Urban land.									
34D:									
Howard--------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Alton---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
34E:									
Howard--------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Alton---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
35A:									
Unadilla	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
35B:									
Unadilla	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
35C:									
Unadilla	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
36B:									
Salmon	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
38A:									
Chenango	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
38B:									
Chenango	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
38C:									
Chenango	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
38D:									
Chenango	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
38E:									
Chenango	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
39A:									
Knickerbocker	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
39B:									
Knickerbocker	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
39C:									
Knickerbocker	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
41:									
Niagara	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
42:									
Castile-------------------	B								
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
43:									
Jebavy--------------------	A/D								
		January	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		February	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		March	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		April	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		May	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		June	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		October	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		November	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
		December	0.0-1.0	>6.0	0.0-1.0	Long	Occasional	---	None
46A:									
Colosse-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
46B:									
Colosse-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
46C:									
Colosse-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
46D:									
Colosse-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
47A:									
Scio----------------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
47B:									
Scio----------------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
50:									
Wareham-------------------	C								
		January	0.7-1.5	>6.0	---	---	None	---	None
		February	0.7-1.5	>6.0	---	---	None	---	None
		March	0.7-1.5	>6.0	---	---	None	---	None
		April	0.7-1.5	>6.0	---	---	None	---	None
		May	0.7-1.5	>6.0	---	---	None	---	None
		November	0.7-1.5	>6.0	---	---	None	---	None
		December	0.7-1.5	>6.0	---	---	None	---	None
54D:									
Colton--------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
55A:									
Adams---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
55B:									
Adams---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
55C:									
Adams---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
55D:									
Adams---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
55E:									
Adams---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
56B:									
Becket, very bouldery-----	C								
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
56B:									
Skerry, very bouldery-----	C								
		January	1.5-2.0	1.7-3.0	---	---	None	---	None
		February	1.5-2.0	1.7-3.0	---	---	None	---	None
		March	1.5-2.0	1.7-3.0	---	---	None	---	None
		April	1.5-2.0	1.7-3.0	---	---	None	---	None
		May	1.5-2.0	1.7-3.0	---	---	None	---	None
		November	1.5-2.0	1.7-3.0	---	---	None	---	None
		December	1.5-2.0	1.7-3.0	---	---	None	---	None
56C:									
Becket, very bouldery-----	C								
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
Skerry, very bouldery-----	C								
		January	1.5-2.0	1.7-3.0	---	---	None	---	None
		February	1.5-2.0	1.7-3.0	---	---	None	---	None
		March	1.5-2.0	1.7-3.0	---	---	None	---	None
		April	1.5-2.0	1.7-3.0	---	---	None	---	None
		May	1.5-2.0	1.7-3.0	---	---	None	---	None
		November	1.5-2.0	1.7-3.0	---	---	None	---	None
		December	1.5-2.0	1.7-3.0	---	---	None	---	None
57A:									
Croghan-------------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
57B:									
Croghan-------------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
60B:									
Adirondack, somewhat poorly drained, very bouldery-----------------	D								
		January	0.5-1.5	1.7-4.2	---	---	None	---	None
		February	0.5-1.5	1.7-4.2	---	---	None	---	None
		March	0.5-1.5	1.7-4.2	---	---	None	---	None
		April	0.5-1.5	1.7-4.2	---	---	None	---	None
		May	0.5-1.5	1.7-4.2	---	---	None	---	None
		November	0.5-1.5	1.7-4.2	---	---	None	---	None
		December	0.5-1.5	1.7-4.2	---	---	None	---	None
Adirondack, poorly drained, very bouldery---	D								
		January	0.0-1.0	1.7-4.2	---	---	None	---	None
		February	0.0-1.0	1.7-4.2	---	---	None	---	None
		March	0.0-1.0	1.7-4.2	---	---	None	---	None
		April	0.0-1.0	1.7-4.2	---	---	None	---	None
		May	0.0-1.0	1.7-4.2	---	---	None	---	None
		June	0.0-1.0	1.7-4.2	---	---	None	---	None
		October	0.0-1.0	1.7-4.2	---	---	None	---	None
		November	0.0-1.0	1.7-4.2	---	---	None	---	None
		December	0.0-1.0	1.7-4.2	---	---	None	---	None
61A:									
Schoharie-----------------	C								
		January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None
61B:									
Schoharie-----------------	C								
		January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
61C:									
Schoharie-----------------	C								
		January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None
61E:									
Schoharie-----------------	C								
		January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None
62C:									
Becket, very bouldery-----	C								
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
Tunbridge, very bouldery--	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
62D:									
Becket, very bouldery-----	C								
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
Tunbridge, very bouldery--	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
63A:									
Wallington----------------	C								
		January	0.5-1.5	1.0-2.0	---	---	None	---	None
		February	0.5-1.5	1.0-2.0	---	---	None	---	None
		March	0.5-1.5	1.0-2.0	---	---	None	---	None
		April	0.5-1.5	1.0-2.0	---	---	None	---	None
		May	0.5-1.5	1.0-2.0	---	---	None	---	None
		November	0.5-1.5	1.0-2.0	---	---	None	---	None
		December	0.5-1.5	1.0-2.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
63B:									
Wallington	C								
		January	0.5-1.5	1.0-2.0	---	---	None	---	None
		February	0.5-1.5	1.0-2.0	---	---	None	---	None
		March	0.5-1.5	1.0-2.0	---	---	None	---	None
		April	0.5-1.5	1.0-2.0	---	---	None	---	None
		May	0.5-1.5	1.0-2.0	---	---	None	---	None
		November	0.5-1.5	1.0-2.0	---	---	None	---	None
		December	0.5-1.5	1.0-2.0	---	---	None	---	None
64A:									
Rhinebeck	D								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
64B:									
Rhinebeck	D								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
65F:									
Tunbridge, very bouldery	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Lyman	C/D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
68:									
Wakeville, rarely flooded	B								
		January	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		February	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		March	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		April	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		May	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		June	0.5-1.5	>6.0	---	---	None	---	---
		November	0.5-1.5	>6.0	---	---	None	Very brief	Rare
		December	0.5-1.5	>6.0	---	---	None	Very brief	Rare

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
72:									
Canandaigua----------------	D								
		January	0.0	>6.0	---	---	None	---	None
		February	0.0	>6.0	---	---	None	---	None
		March	0.0	>6.0	---	---	None	---	None
		April	0.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.0-1.0	>6.0	---	---	None	---	None
		November	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0	>6.0	---	---	None	---	None
74B:									
Berkshire------------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
74C:									
Berkshire------------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
75:									
Lamson---------------------	B/D								
		January	0.0-1.0	>6.0	---	---	None	---	None
		February	0.0-1.0	>6.0	---	---	None	---	None
		March	0.0-1.0	>6.0	---	---	None	---	None
		April	0.0-1.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.0-1.0	>6.0	---	---	None	---	None
		November	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	---	None
76:									
Niagara--------------------	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
77A:									
Collamer-------------------	C								
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
77B:									
Collamer------------------	C								
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
77C:									
Collamer------------------	C								
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
77D:									
Collamer------------------	C								
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
78A:									
Arkport-------------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
78B:									
Arkport-------------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
78C:									
Arkport-------------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
79A:									
Roundabout----------------	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
79B:									
Roundabout----------------	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
81A:									
Covert--------------------	A								
		January	2.0-3.0	>6.0	---	---	None	---	None
		February	2.0-3.0	>6.0	---	---	None	---	None
		March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	---	None
		November	2.0-3.0	>6.0	---	---	None	---	None
		December	2.0-3.0	>6.0	---	---	None	---	None
81B:									
Covert--------------------	A								
		January	2.0-3.0	>6.0	---	---	None	---	None
		February	2.0-3.0	>6.0	---	---	None	---	None
		March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	---	None
		November	2.0-3.0	>6.0	---	---	None	---	None
		December	2.0-3.0	>6.0	---	---	None	---	None
90A:									
Windsor-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
90B:									
Windsor-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
90C:									
Windsor-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
90D:									
Windsor-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
90E:									
Windsor-------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
92:									
Napoleon------------------	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		September	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		October	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
94:									
Naumburg, somewhat poorly drained-----------------	C								
		January	0.8-1.5	>6.0	---	---	None	---	None
		February	0.8-1.5	>6.0	---	---	None	---	None
		March	0.8-1.5	>6.0	---	---	None	---	None
		April	0.8-1.5	>6.0	---	---	None	---	None
		May	0.8-1.5	>6.0	---	---	None	---	None
		November	0.8-1.5	>6.0	---	---	None	---	None
		December	0.8-1.5	>6.0	---	---	None	---	None
Naumburg, poorly drained--	C								
		January	0.0-1.5	>6.0	---	---	None	---	None
		February	0.0-1.5	>6.0	---	---	None	---	None
		March	0.0-1.5	>6.0	---	---	None	---	None
		April	0.0-1.5	>6.0	---	---	None	---	None
		May	0.0-1.5	>6.0	---	---	None	---	None
		November	0.0-1.5	>6.0	---	---	None	---	None
		December	0.0-1.5	>6.0	---	---	None	---	None
95:									
Carlisle------------------	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		September	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		October	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
99:									
Greenwood	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		September	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		October	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
102B:									
Honeoye	B								
		March	4.0-6.0	>6.0	---	---	None	---	None
		April	4.0-6.0	>6.0	---	---	None	---	None
		May	4.0-6.0	>6.0	---	---	None	---	None
102C:									
Honeoye	B								
		March	4.0-6.0	>6.0	---	---	None	---	None
		April	4.0-6.0	>6.0	---	---	None	---	None
		May	4.0-6.0	>6.0	---	---	None	---	None
102D:									
Honeoye	B								
		March	4.0-6.0	>6.0	---	---	None	---	None
		April	4.0-6.0	>6.0	---	---	None	---	None
		May	4.0-6.0	>6.0	---	---	None	---	None
103B:									
Honeoye	B								
		March	4.0-6.0	>6.0	---	---	None	---	None
		April	4.0-6.0	>6.0	---	---	None	---	None
		May	4.0-6.0	>6.0	---	---	None	---	None
Urban land.									
104E:									
Honeoye	B								
		March	4.0-6.0	>6.0	---	---	None	---	None
		April	4.0-6.0	>6.0	---	---	None	---	None
		May	4.0-6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
104E:									
Cazenovia	B								
		March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
109B:									
Cazenovia	B								
		March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
109C:									
Cazenovia	B								
		March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
109D:									
Cazenovia	B								
		March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
111B:									
Lansing	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
111C:									
Lansing	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
111D:									
Lansing	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
111E:									
Lansing	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
113A:									
Camroden	C								
		January	0.5-1.5	1.2-1.7	---	---	None	---	None
		February	0.5-1.5	1.2-1.7	---	---	None	---	None
		March	0.5-1.5	1.2-1.7	---	---	None	---	None
		April	0.5-1.5	1.2-1.7	---	---	None	---	None
		May	0.5-1.5	1.2-1.7	---	---	None	---	None
		November	0.5-1.5	1.2-1.7	---	---	None	---	None
		December	0.5-1.5	1.2-1.7	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
113B:									
Camroden------------------	C								
		January	0.5-1.5	1.2-1.7	---	---	None	---	None
		February	0.5-1.5	1.2-1.7	---	---	None	---	None
		March	0.5-1.5	1.2-1.7	---	---	None	---	None
		April	0.5-1.5	1.2-1.7	---	---	None	---	None
		May	0.5-1.5	1.2-1.7	---	---	None	---	None
		November	0.5-1.5	1.2-1.7	---	---	None	---	None
		December	0.5-1.5	1.2-1.7	---	---	None	---	None
113C:									
Camroden------------------	C								
		January	0.5-1.5	1.2-1.7	---	---	None	---	None
		February	0.5-1.5	1.2-1.7	---	---	None	---	None
		March	0.5-1.5	1.2-1.7	---	---	None	---	None
		April	0.5-1.5	1.2-1.7	---	---	None	---	None
		May	0.5-1.5	1.2-1.7	---	---	None	---	None
		November	0.5-1.5	1.2-1.7	---	---	None	---	None
		December	0.5-1.5	1.2-1.7	---	---	None	---	None
114B:									
Pinckney------------------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None
114C:									
Pinckney------------------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
114D:									
Pinckney------------------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None
115B:									
Chadakoin-----------------	B								
		February	3.5-6.0	>6.0	---	---	None	---	None
		March	3.5-6.0	>6.0	---	---	None	---	None
		April	3.5-6.0	>6.0	---	---	None	---	None
115C:									
Chadakoin-----------------	B								
		February	3.5-6.0	>6.0	---	---	None	---	None
		March	3.5-6.0	>6.0	---	---	None	---	None
		April	3.5-6.0	>6.0	---	---	None	---	None
115D:									
Chadakoin-----------------	B								
		February	3.5-6.0	>6.0	---	---	None	---	None
		March	3.5-6.0	>6.0	---	---	None	---	None
		April	3.5-6.0	>6.0	---	---	None	---	None
115E:									
Chadakoin-----------------	B								
		February	3.5-6.0	>6.0	---	---	None	---	None
		March	3.5-6.0	>6.0	---	---	None	---	None
		April	3.5-6.0	>6.0	---	---	None	---	None
117A:									
Pittsfield----------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
117B:									
Pittsfield----------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
117C:									
Pittsfield----------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
117D:									
Pittsfield----------------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
117E:									
Pittsfield	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
119B:									
Pyrities	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
119C:									
Pyrities	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
119D:									
Pyrities	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
119E:									
Pyrities	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
120C:									
Pyrities, rolling, very bouldery	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
121B:									
Worth	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
121C:									
Worth	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
121D:									
Worth	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
121E:									
Worth	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
126A:									
Lima	B								
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
126B:									
Lima	B								
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
126C:									
Lima	B								
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
133B:									
Empeyville	C								
		January	1.2-1.8	1.2-1.8	---	---	None	---	None
		February	1.2-1.8	1.2-1.8	---	---	None	---	None
		March	1.2-1.8	1.2-1.8	---	---	None	---	None
		April	1.2-1.8	1.2-1.8	---	---	None	---	None
		May	1.2-1.8	1.2-1.8	---	---	None	---	None
		November	1.2-1.8	1.2-1.8	---	---	None	---	None
		December	1.2-1.8	1.2-1.8	---	---	None	---	None
133C:									
Empeyville	C								
		January	1.2-1.8	1.2-1.8	---	---	None	---	None
		February	1.2-1.8	1.2-1.8	---	---	None	---	None
		March	1.2-1.8	1.2-1.8	---	---	None	---	None
		April	1.2-1.8	1.2-1.8	---	---	None	---	None
		May	1.2-1.8	1.2-1.8	---	---	None	---	None
		November	1.2-1.8	1.2-1.8	---	---	None	---	None
		December	1.2-1.8	1.2-1.8	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
136A:									
Kendaia	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
136B:									
Kendaia	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
144A:									
Westbury	C								
		January	0.5-1.5	0.8-2.0	---	---	None	---	None
		February	0.5-1.5	0.8-2.0	---	---	None	---	None
		March	0.5-1.5	0.8-2.0	---	---	None	---	None
		April	0.5-1.5	0.8-2.0	---	---	None	---	None
		May	0.5-1.5	0.8-2.0	---	---	None	---	None
		November	0.5-1.5	0.8-2.0	---	---	None	---	None
		December	0.5-1.5	0.8-2.0	---	---	None	---	None
144B:									
Westbury	C								
		January	0.5-1.5	0.8-2.0	---	---	None	---	None
		February	0.5-1.5	0.8-2.0	---	---	None	---	None
		March	0.5-1.5	0.8-2.0	---	---	None	---	None
		April	0.5-1.5	0.8-2.0	---	---	None	---	None
		May	0.5-1.5	0.8-2.0	---	---	None	---	None
		November	0.5-1.5	0.8-2.0	---	---	None	---	None
		December	0.5-1.5	0.8-2.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
146:									
Lyons	D								
		January	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		February	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		March	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		April	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		May	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		June	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		November	0.0-0.5	>6.0	---	---	---	---	None
		December	0.0-0.5	>6.0	---	---	---	---	None
150:									
Tughill, stony	D								
		January	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		May	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		June	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		November	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		December	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
151:									
Chippewa	D								
		January	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		February	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		March	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		April	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		May	0.0-0.5	0.7-1.7	---	---	---	---	None
		November	0.0-0.5	0.7-1.7	---	---	---	---	None
		December	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
152B:									
Farmington	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
153C:									
Farmington	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Rock outcrop	D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
153D:									
Farmington	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
155:									
Dannemora, stony----------	D								
		January	0.0-0.5	1.0-1.7	---	---	None	---	None
		February	0.0-0.5	1.0-1.7	---	---	None	---	None
		March	0.0-0.5	1.0-1.7	---	---	None	---	None
		April	0.0-0.5	1.0-1.7	---	---	None	---	None
		May	0.0-0.5	1.0-1.7	---	---	None	---	None
		November	0.0-0.5	1.0-1.7	---	---	None	---	None
		December	0.0-0.5	1.0-1.7	---	---	None	---	None
156B:									
Lairdsville, well drained	D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
156C:									
Lairdsville, well drained	D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
156E:									
Lairdsville, well drained	D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
162B:									
Ischua--------------------	B								
		January	1.5-2.0	1.7-3.3	---	---	None	---	None
		February	1.5-2.0	1.7-3.3	---	---	None	---	None
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
		December	1.5-2.0	1.7-3.3	---	---	None	---	None
162C:									
Ischua--------------------	B								
		January	1.5-2.0	1.7-3.3	---	---	None	---	None
		February	1.5-2.0	1.7-3.3	---	---	None	---	None
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
		December	1.5-2.0	1.7-3.3	---	---	None	---	None
162D:									
Ischua--------------------	B								
		January	1.5-2.0	1.7-3.3	---	---	None	---	None
		February	1.5-2.0	1.7-3.3	---	---	None	---	None
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
		December	1.5-2.0	1.7-3.3	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
168B:									
Manlius	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
168C:									
Manlius	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
168D:									
Manlius	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
168E:									
Manlius	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
173B:									
Mongaup	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
173C:									
Mongaup	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
173E:									
Mongaup	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
176B:									
Nellis	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
176C:									
Nellis	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
176D:									
Nellis	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
195:									
Palms, drained	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
200B:									
Bice	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
200C:									
Bice	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
200D:									
Bice	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
200E:									
Bice	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
212:									
Adrian	A/D								
		January	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		November	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	---	None
221B:									
Kalurah	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
221C:									
Kalurah	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
221D:									
Kalurah	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
221E:									
Kalurah	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
223A:									
Malone	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None
223B:									
Malone	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
223C:									
Malone--------------------	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None
256D:									
Becket, very bouldery-----	C								
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
260A:									
Ovid----------------------	C								
		January	0.5-2.0	>6.0	---	---	None	---	None
		February	0.5-2.0	>6.0	---	---	None	---	None
		March	0.5-2.0	>6.0	---	---	None	---	None
		April	0.5-2.0	>6.0	---	---	None	---	None
		May	0.5-2.0	>6.0	---	---	None	---	None
		November	0.5-2.0	>6.0	---	---	None	---	None
		December	0.5-2.0	>6.0	---	---	None	---	None
260B:									
Ovid----------------------	C								
		January	0.5-2.0	>6.0	---	---	None	---	None
		February	0.5-2.0	>6.0	---	---	None	---	None
		March	0.5-2.0	>6.0	---	---	None	---	None
		April	0.5-2.0	>6.0	---	---	None	---	None
		May	0.5-2.0	>6.0	---	---	None	---	None
		November	0.5-2.0	>6.0	---	---	None	---	None
		December	0.5-2.0	>6.0	---	---	None	---	None
267B:									
Greene--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
267C:									
Greene--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None
269:									
Greene--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None
Tuller--------------------	D								
		January	0.0-1.0	0.8-1.7	---	---	None	---	None
		February	0.0-1.0	0.8-1.7	---	---	None	---	None
		March	0.0-1.0	0.8-1.7	---	---	None	---	None
		April	0.0-1.0	0.8-1.7	---	---	None	---	None
		May	0.0-1.0	0.8-1.7	---	---	None	---	None
		June	0.0-1.0	0.8-1.7	---	---	None	---	None
		December	0.0-1.0	0.8-1.7	---	---	None	---	None
295:									
Carlisle, drained---------	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0-4.0	>6.0	---	---	---	---	None
		May	0.0-4.0	>6.0	---	---	---	---	None
		June	0.0-4.0	>6.0	---	---	---	---	None
		September	0.0-4.0	>6.0	---	---	---	---	None
		October	0.0-4.0	>6.0	0.0-0.5	Very long	Frequent	---	None
		November	0.0-4.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
350A:									
Alton---------------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
350B:									
Alton	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
350C:									
Alton	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
355B:									
Arnot	C/D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
372A:									
Appleton	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
372B:									
Appleton	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
395:									
Palms	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0-3.0	>6.0	---	---	---	---	None
		September	0.0-3.0	>6.0	---	---	---	---	None
		October	0.0-3.0	>6.0	---	---	---	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
397:									
Wonsqueak	D								
		January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		May	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		June	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		July	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		September	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		October	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		November	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		December	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
398:									
Dawson	A/D								
		January	0.0	>6.0	0.0-1.0	Very long	None	---	None
		February	0.0	>6.0	0.0-1.0	Very long	None	---	None
		March	0.0	>6.0	0.0-1.0	Very long	None	---	None
		April	0.0	>6.0	0.0-1.0	Very long	None	---	None
		May	0.0	>6.0	0.0-1.0	Very long	None	---	None
		June	0.0	>6.0	0.0-1.0	Very long	None	---	None
		September	0.0	>6.0	0.0-1.0	Very long	None	---	None
		October	0.0	>6.0	0.0-1.0	Very long	None	---	None
		November	0.0	>6.0	0.0-1.0	Very long	None	---	None
		December	0.0	>6.0	0.0-1.0	Very long	None	---	None
413B:									
Venango	C								
		January	0.5-1.5	1.2-2.3	---	---	None	---	None
		February	0.5-1.5	1.2-2.3	---	---	None	---	None
		March	0.5-1.5	1.2-2.3	---	---	None	---	None
		April	0.5-1.5	1.2-2.3	---	---	None	---	None
		May	0.5-1.5	1.2-2.3	---	---	None	---	None
		November	0.5-1.5	1.2-2.3	---	---	None	---	None
		December	0.5-1.5	1.2-2.3	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
413C:									
Venango-------------------	C								
		January	0.5-1.5	1.2-2.3	---	---	None	---	None
		February	0.5-1.5	1.2-2.3	---	---	None	---	None
		March	0.5-1.5	1.2-2.3	---	---	None	---	None
		April	0.5-1.5	1.2-2.3	---	---	None	---	None
		May	0.5-1.5	1.2-2.3	---	---	None	---	None
		November	0.5-1.5	1.2-2.3	---	---	None	---	None
		December	0.5-1.5	1.2-2.3	---	---	None	---	None
414B:									
Mardin--------------------	C								
		January	1.5-2.0	1.2-2.2	---	---	None	---	None
		February	1.5-2.0	1.2-2.2	---	---	None	---	None
		March	1.5-2.0	1.2-2.2	---	---	None	---	None
		April	1.5-2.0	1.2-2.2	---	---	None	---	None
		May	1.5-2.0	1.2-2.2	---	---	None	---	None
		December	1.5-2.0	1.2-2.2	---	---	None	---	None
414C:									
Mardin--------------------	C								
		January	1.5-2.0	1.2-2.2	---	---	None	---	None
		February	1.5-2.0	1.2-2.2	---	---	None	---	None
		March	1.5-2.0	1.2-2.2	---	---	None	---	None
		April	1.5-2.0	1.2-2.2	---	---	None	---	None
		May	1.5-2.0	1.2-2.2	---	---	None	---	None
		December	1.5-2.0	1.2-2.2	---	---	None	---	None
414D:									
Mardin--------------------	C								
		January	1.5-2.0	1.2-2.2	---	---	None	---	None
		February	1.5-2.0	1.2-2.2	---	---	None	---	None
		March	1.5-2.0	1.2-2.2	---	---	None	---	None
		April	1.5-2.0	1.2-2.2	---	---	None	---	None
		May	1.5-2.0	1.2-2.2	---	---	None	---	None
		December	1.5-2.0	1.2-2.2	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
461:									
Marcy----------------------	D								
		January	0.0-0.5	1.0-1.5	---	---	None	---	None
		February	0.0-0.5	1.0-1.5	---	---	None	---	None
		March	0.0-0.5	1.0-1.5	---	---	None	---	None
		April	0.0-0.5	1.0-1.5	---	---	None	---	None
		May	0.0-0.5	1.0-1.5	---	---	None	---	None
		June	0.0-0.5	1.0-1.5	---	---	None	---	None
		November	0.0-0.5	1.0-1.5	---	---	None	---	None
		December	0.0-0.5	1.0-1.5	---	---	None	---	None
462:									
Runeberg------------------	C/D								
		January	0.0-0.5	>6.0	---	---	---	---	None
		February	0.0-0.5	>6.0	0.0-0.5	Long	Occasional	---	None
		March	0.0-0.5	>6.0	0.0-0.5	Long	Occasional	---	None
		April	0.0-0.5	>6.0	0.0-0.5	Long	Occasional	---	None
		May	0.0-0.5	>6.0	---	---	---	---	None
		June	0.0-0.5	>6.0	---	---	---	---	None
		October	0.0-0.5	>6.0	---	---	---	---	None
		November	0.0-0.5	>6.0	---	---	---	---	None
		December	0.0-0.5	>6.0	---	---	---	---	None
515A:									
Galway, well drained------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
515B:									
Galway, well drained------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
515C:									
Galway, well drained------	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
565B:									
Aurora--------------------	C								
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
565C:									
Aurora--------------------	C								
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
565D:									
Aurora	C								
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
565E:									
Aurora	C								
		March	1.5-2.0	1.7-3.3	---	---	None	---	None
		April	1.5-2.0	1.7-3.3	---	---	None	---	None
		May	1.5-2.0	1.7-3.3	---	---	None	---	None
582A:									
Amenia	B								
		January	1.5-3.0	1.7-3.7	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		November	1.5-3.0	1.7-3.7	---	---	None	---	None
		December	1.5-3.0	1.7-3.7	---	---	None	---	None
582B:									
Amenia	B								
		January	1.5-3.0	1.7-3.7	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		November	1.5-3.0	1.7-3.7	---	---	None	---	None
		December	1.5-3.0	1.7-3.7	---	---	None	---	None
747A:									
Manheim	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
747B:									
Manheim	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None
747C:									
Manheim	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None
750B:									
Minoa	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
790A:									
Conesus	B								
		March	1.5-2.0	2.5-4.2	---	---	None	---	None
		April	1.5-2.0	2.5-4.2	---	---	None	---	None
		May	1.5-2.0	2.5-4.2	---	---	None	---	None
790B:									
Conesus	B								
		March	1.5-2.0	2.5-4.2	---	---	None	---	None
		April	1.5-2.0	2.5-4.2	---	---	None	---	None
		May	1.5-2.0	2.5-4.2	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
790C:									
Conesus-------------------	B								
		March	1.5-2.0	2.5-4.2	---	---	None	---	None
		April	1.5-2.0	2.5-4.2	---	---	None	---	None
		May	1.5-2.0	2.5-4.2	---	---	None	---	None
801B:									
Alton, cool---------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
801C:									
Alton, cool---------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
802D:									
Howard, cool--------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Alton, cool---------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
802E:									
Howard, cool--------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Alton, cool---------------	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
804:									
Chippewa, stony-----------	D								
		January	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		February	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		March	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		April	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
		May	0.0-0.5	0.7-1.7	---	---	---	---	None
		November	0.0-0.5	0.7-1.7	---	---	---	---	None
		December	0.0-0.5	0.7-1.7	0.0-0.5	Long	Occasional	---	None
807A:									
Manheim, cool-------------	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
807B:									
Manheim, cool-------------	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None
807C:									
Manheim, cool-------------	C								
		January	0.5-1.5	2.0-5.0	---	---	None	---	None
		February	0.5-1.5	2.0-5.0	---	---	None	---	None
		March	0.5-1.5	2.0-5.0	---	---	None	---	None
		April	0.5-1.5	2.0-5.0	---	---	None	---	None
		May	0.5-1.5	2.0-5.0	---	---	None	---	None
		October	0.5-1.5	2.0-5.0	---	---	None	---	None
		November	0.5-1.5	2.0-5.0	---	---	None	---	None
		December	0.5-1.5	2.0-5.0	---	---	None	---	None
811B:									
Empeyville, warm----------	C								
		January	1.2-1.8	1.2-1.8	---	---	None	---	None
		February	1.2-1.8	1.2-1.8	---	---	None	---	None
		March	1.2-1.8	1.2-1.8	---	---	None	---	None
		April	1.2-1.8	1.2-1.8	---	---	None	---	None
		May	1.2-1.8	1.2-1.8	---	---	None	---	None
		November	1.2-1.8	1.2-1.8	---	---	None	---	None
		December	1.2-1.8	1.2-1.8	---	---	None	---	None
811C:									
Empeyville, warm----------	C								
		January	1.2-1.8	1.2-1.8	---	---	None	---	None
		February	1.2-1.8	1.2-1.8	---	---	None	---	None
		March	1.2-1.8	1.2-1.8	---	---	None	---	None
		April	1.2-1.8	1.2-1.8	---	---	None	---	None
		May	1.2-1.8	1.2-1.8	---	---	None	---	None
		November	1.2-1.8	1.2-1.8	---	---	None	---	None
		December	1.2-1.8	1.2-1.8	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
813B:									
Gretor--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		November	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None
813C:									
Gretor--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		November	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None
814:									
Gretor--------------------	C								
		January	0.5-1.0	1.7-3.3	---	---	None	---	None
		February	0.5-1.0	1.7-3.3	---	---	None	---	None
		March	0.5-1.0	1.7-3.3	---	---	None	---	None
		April	0.5-1.0	1.7-3.3	---	---	None	---	None
		May	0.5-1.0	1.7-3.3	---	---	None	---	None
		June	0.5-1.0	1.7-3.3	---	---	None	---	None
		November	0.5-1.0	1.7-3.3	---	---	None	---	None
		December	0.5-1.0	1.7-3.3	---	---	None	---	None
Torull--------------------	D								
		January	0.0-1.0	0.8-1.7	---	---	None	---	None
		February	0.0-1.0	0.8-1.7	---	---	None	---	None
		March	0.0-1.0	0.8-1.7	---	---	None	---	None
		April	0.0-1.0	0.8-1.7	---	---	None	---	None
		May	0.0-1.0	0.8-1.7	---	---	None	---	None
		June	0.0-1.0	0.8-1.7	---	---	None	---	None
		November	0.0-1.0	0.8-1.7	---	---	None	---	None
		December	0.0-1.0	0.8-1.7	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
816B:									
Herkimer, cool------------	B								
		February	2.0-3.0	>6.0	---	---	None	---	None
		March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	---	None
		May	2.0-3.0	>6.0	---	---	None	---	None
818B:									
Kalurah, warm-------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
818C:									
Kalurah, warm-------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
818D:									
Kalurah, warm-------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
818E:									
Kalurah, warm-------------	B								
		January	1.5-2.0	>6.0	---	---	None	---	None
		February	1.5-2.0	>6.0	---	---	None	---	None
		March	1.5-2.0	>6.0	---	---	None	---	None
		April	1.5-2.0	>6.0	---	---	None	---	None
		May	1.5-2.0	>6.0	---	---	None	---	None
		November	1.5-2.0	>6.0	---	---	None	---	None
		December	1.5-2.0	>6.0	---	---	None	---	None
819A:									
Kendaia, cool-------------	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
819B:									
Kendaia, cool-------------	C								
		January	0.5-1.5	>6.0	---	---	None	---	None
		February	0.5-1.5	>6.0	---	---	None	---	None
		March	0.5-1.5	>6.0	---	---	None	---	None
		April	0.5-1.5	>6.0	---	---	None	---	None
		May	0.5-1.5	>6.0	---	---	None	---	None
		November	0.5-1.5	>6.0	---	---	None	---	None
		December	0.5-1.5	>6.0	---	---	None	---	None
823A:									
Malone, warm--------------	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
823B:									
Malone, warm--------------	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None
823C:									
Malone, warm--------------	C								
		January	0.5-1.5	1.5-3.2	---	---	None	---	None
		February	0.5-1.5	1.5-3.2	---	---	None	---	None
		March	0.5-1.5	1.5-3.2	---	---	None	---	None
		April	0.5-1.5	1.5-3.2	---	---	None	---	None
		May	0.5-1.5	1.5-3.2	---	---	None	---	None
		October	0.5-1.5	1.5-3.2	---	---	None	---	None
		November	0.5-1.5	1.5-3.2	---	---	None	---	None
		December	0.5-1.5	1.5-3.2	---	---	None	---	None
825B:									
Pinckney, warm------------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None
825C:									
Pinckney, warm------------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
825D:									
Pinckney, warm-----------	C								
		January	1.5-2.0	1.7-2.5	---	---	None	---	None
		February	1.5-2.0	1.7-2.5	---	---	None	---	None
		March	1.5-2.0	1.7-2.5	---	---	None	---	None
		April	1.5-2.0	1.7-2.5	---	---	None	---	None
		May	1.5-2.0	1.7-2.5	---	---	None	---	None
		December	1.5-2.0	1.7-2.5	---	---	None	---	None
831:									
Tughill, stony, warm------	D								
		January	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		May	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		June	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		November	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
		December	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	---	None
833A:									
Westbury, warm-----------	C								
		January	0.5-1.5	0.8-2.0	---	---	None	---	None
		February	0.5-1.5	0.8-2.0	---	---	None	---	None
		March	0.5-1.5	0.8-2.0	---	---	None	---	None
		April	0.5-1.5	0.8-2.0	---	---	None	---	None
		May	0.5-1.5	0.8-2.0	---	---	None	---	None
		November	0.5-1.5	0.8-2.0	---	---	None	---	None
		December	0.5-1.5	0.8-2.0	---	---	None	---	None
833B:									
Westbury, warm-----------	C								
		January	0.5-1.5	0.8-2.0	---	---	None	---	None
		February	0.5-1.5	0.8-2.0	---	---	None	---	None
		March	0.5-1.5	0.8-2.0	---	---	None	---	None
		April	0.5-1.5	0.8-2.0	---	---	None	---	None
		May	0.5-1.5	0.8-2.0	---	---	None	---	None
		November	0.5-1.5	0.8-2.0	---	---	None	---	None
		December	0.5-1.5	0.8-2.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
838B:									
Worth, warm	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
838C:									
Worth, warm	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
838D:									
Worth, warm	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
838E:									
Worth, warm	C								
		February	2.0-3.0	2.0-3.0	---	---	None	---	None
		March	2.0-3.0	2.0-3.0	---	---	None	---	None
		April	2.0-3.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.0	2.0-3.0	---	---	None	---	None
842B:									
Farmington, cool	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
843D:									
Farmington, cool	C	Jan-Dec	>6.0	>6.0	---	---	None	---	None
Rock outcrop	D	Jan-Dec	>6.0	>6.0	---	---	None	---	None
845A:									
Galway, cool	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
845B:									
Galway, cool	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None
845C:									
Galway, cool	B	Jan-Dec	>6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
858A:									
Chenango, red substratum--	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
858B:									
Chenango, red substratum--	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
858C:									
Chenango, red substratum--	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
858D:									
Chenango, red substratum--	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
858E:									
Chenango, red substratum--	A	Jan-Dec	>6.0	>6.0	---	---	None	---	None
982:									
Wallkill------------------	C/D								
		January	0.0-1.0	>6.0	---	---	None	Long	Occasional
		February	0.0-1.0	>6.0	---	---	None	Long	Occasional
		March	0.0-1.0	>6.0	---	---	None	Long	Occasional
		April	0.0-1.0	>6.0	---	---	None	Long	Occasional
		May	0.0-1.0	>6.0	---	---	None	Long	Occasional
		June	0.0-1.0	>6.0	---	---	None	Long	Occasional
		September	0.0-1.0	>6.0	---	---	None	Long	Occasional
		October	0.0-1.0	>6.0	---	---	None	Long	Occasional
		November	0.0-1.0	>6.0	---	---	None	Long	Occasional
		December	0.0-1.0	>6.0	---	---	None	Long	Occasional
W:									
Water.									

Table 24.--Classification of the Soils

(An asterisk in the first column indicates that the soil is a taxadjunct to the series)

Soil name	Family or higher taxonomic class
Adams	Sandy, mixed, frigid Typic Haplorthods
Adirondack	Coarse-loamy, mixed, frigid Typic Haplaquods
Adrian	Sandy or sandy-skeletal, mixed, euic, mesic Terric Medisaprists
Alton	Loamy-skeletal, mixed, mesic Dystric Eutrochrepts
*Alton	Loamy-skeletal, mixed, frigid Dystric Eutrochrepts
Amenia	Coarse-loamy, mixed, mesic Aquic Eutrochrepts
Appleton	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Arkport	Coarse-loamy, mixed, mesic Psammentic Hapludalfs
Arnot	Loamy-skeletal, mixed, mesic Lithic Dystrochrepts
Aurora	Fine-loamy, mixed, mesic Glossaquic Hapludalfs
Becket	Coarse-loamy, mixed, frigid Typic Haplorthods
Berkshire	Coarse-loamy, mixed, frigid Typic Haplorthods
Bice	Coarse-loamy, mixed, frigid Typic Dystrochrepts
Borosaprists	Borosaprists
Camroden	Fine-loamy, mixed, frigid Aeric Fragiaquepts
Canandaigua	Fine-silty, mixed, nonacid, mesic Mollic Haplaquepts
Carlisle	Euic, mesic Typic Medisaprists
Castile	Loamy-skeletal, mixed, mesic Aquic Dystrochrepts
Cazenovia	Fine-loamy, mixed, mesic Glossoboric Hapludalfs
Chadakoin	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Chenango	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Chippewa	Fine-loamy, mixed, mesic Typic Fragiaquepts
Collamer	Fine-silty, mixed, mesic Glossaquic Hapludalfs
Colosse	Loamy-skeletal, mixed, frigid Entic Haplorthods
Colton	Sandy-skeletal, mixed, frigid Typic Haplorthods
Conesus	Fine-loamy, mixed, mesic Glossoboric Hapludalfs
Covert	Sandy, mixed, mesic Entic Haplorthods
Croghan	Sandy, mixed, frigid Aquic Haplorthods
Dannemora	Coarse-loamy, mixed, frigid Typic Fragiaquepts
Dawson	Sandy or sandy-skeletal, mixed, dysic Terric Borosaprists
Empeyville	Coarse-loamy, mixed, frigid Aquic Fragiorthods
*Empeyville	Coarse-loamy, mixed, mesic Aquic Fragiorthods
Farmington	Loamy, mixed, mesic Lithic Eutrochrepts
*Farmington	Loamy, mixed, frigid Lithic Eutrochrepts
Fluvaquents	Fluvaquents
Fredon	Coarse-loamy over sandy or sandy-skeletal, mixed, nonacid, mesic Aeric Haplaquepts
Galway	Coarse-loamy, mixed, mesic Typic Eutrochrepts
*Galway	Coarse-loamy, mixed, frigid Typic Eutrochrepts
Greene	Fine-loamy, mixed, acid, mesic Aeric Haplaquepts
Greenwood	Dysic Typic Borohemists
Gretor	Fine-loamy, mixed, acid, frigid Aeric Haplaquepts
Halsey	Coarse-loamy over sandy or sandy-skeletal, mixed, nonacid, mesic Mollic Haplaquepts
Hamlin	Coarse-silty, mixed, mesic Dystric Fluventic Eutrochrepts
Herkimer	Coarse-loamy, mixed, mesic Dystric Eutrochrepts
*Herkimer	Coarse-loamy, mixed, frigid Dystric Eutrochrepts
Honeoye	Fine-loamy, mixed, mesic Glossoboric Hapludalfs
Howard	Loamy-skeletal, mixed, mesic Glossoboric Hapludalfs
*Howard	Loamy-skeletal, mixed, frigid Glossoboric Hapludalfs
Ischua	Fine-loamy, mixed, frigid Aquic Dystrochrepts
Jebavy	Sandy, mixed, mesic, ortstein Aeric Haplaquods
Kalurah	Coarse-loamy, mixed, frigid Aquic Dystric Eutrochrepts
*Kalurah	Coarse-loamy, mixed, mesic Aquic Dystric Eutrochrepts
Kendaia	Fine-loamy, mixed, nonacid, mesic Aeric Haplaquepts
*Kendaia	Fine-loamy, mixed, nonacid, frigid Aeric Haplaquepts
Knickerbocker	Sandy, mixed, mesic Typic Dystrochrepts
Lairdsville	Fine, illitic, mesic Typic Hapludalfs
Lamson	Coarse-loamy, mixed, nonacid, mesic Aeric Haplaquepts
Lansing	Fine-loamy, mixed, mesic Glossoboric Hapludalfs
Lima	Fine-loamy, mixed, mesic Glossoboric Hapludalfs
Lyman	Loamy, mixed, frigid Lithic Haplorthods

Table 24.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Lyons	Fine-loamy, mixed, nonacid, mesic Mollic Haplaquepts
Malone	Coarse-loamy, mixed, nonacid, frigid Aeric Haplaquepts
*Malone	Coarse-loamy, mixed, nonacid, mesic Aeric Haplaquepts
Manheim	Fine-loamy, mixed, mesic Udollic Ochraqualfs
*Manheim	Fine-loamy, mixed, frigid Udollic Ochraqualfs
Manlius	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Marcy	Fine-loamy, mixed, frigid Typic Fragiaquepts
Mardin	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Minoa	Coarse-loamy, mixed, mesic Aquic Dystric Eutrochrepts
Mongaup	Coarse-loamy, mixed, frigid Typic Dystrochrepts
Napoleon	Dysic, mesic Typic Medihemists
Naumburg	Sandy, mixed, frigid Aeric Haplaquods
Nellis	Coarse-loamy, mixed, mesic Typic Eutrochrepts
Niagara	Fine-silty, mixed, mesic Aeric Ochraqualfs
Nicholville	Coarse-silty, mixed, frigid Aquic Haplorthods
Otego	Coarse-silty, mixed, mesic Fluvaquentic Dystrochrepts
Ovid	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Palms	Loamy, mixed, euic, mesic Terric Medisaprists
Phelps	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Glossaquic Hapludalfs
Pinckney	Coarse-loamy, mixed, frigid Typic Fragiochrepts
*Pinckney	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Pittsfield	Coarse-loamy, mixed, mesic Dystric Eutrochrepts
Pyrities	Coarse-loamy, mixed, frigid Dystric Eutrochrepts
Rhinebeck	Fine, illitic, mesic Aeric Ochraqualfs
Roundabout	Coarse-silty, mixed, nonacid, frigid Aeric Haplaquepts
Runeberg	Coarse-loamy, mixed, frigid Typic Haplaquolls
Salmon	Coarse-silty, mixed, frigid Typic Haplorthods
Schoharie	Fine, illitic, mesic Typic Hapludalfs
Scio	Coarse-silty, mixed, mesic Aquic Dystrochrepts
Skerry	Coarse-loamy, mixed, frigid Aquic Haplorthods
Torull	Loamy, mixed, acid, frigid Lithic Haplaquepts
Tughill	Loamy-skeletal, mixed, nonacid, frigid Histic Humaquepts
*Tughill	Loamy-skeletal, mixed, nonacid, mesic Histic Humaquepts
Tuller	Loamy, mixed, acid, mesic Lithic Haplaquepts
Tunbridge	Coarse-loamy, mixed, frigid Typic Haplorthods
Udifluvents	Udifluvents
Udorthents	Udorthents
Unadilla	Coarse-silty, mixed, mesic Typic Dystrochrepts
Venango	Fine-loamy, mixed, mesic Aeric Fragiaqualfs
Wakeville	Coarse-silty, mixed, nonacid, mesic Aeric Fluvaquents
Wallington	Coarse-silty, mixed, mesic Aeric Fragiaquepts
Wallkill	Fine-loamy, mixed, nonacid, mesic Thapto-Histic Fluvaquents
Wareham	Mixed, mesic Humaqueptic Psammaquents
Wayland	Fine-silty, mixed, nonacid, mesic Mollic Fluvaquents
Wenonah	Coarse-loamy, mixed, mesic Fluventic Dystrochrepts
Westbury	Coarse-loamy, mixed, frigid Typic Fragiaquods
*Westbury	Coarse-loamy, mixed, mesic Typic Fragiaquods
Windsor	Mixed, mesic Typic Udipsamments
Wonsqueak	Loamy, mixed, euic Terric Borosaprists
Worth	Coarse-loamy, mixed, frigid Typic Fragiorthods
*Worth	Coarse-loamy, mixed, mesic Typic Fragiorthods

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS ON TILL PLAINS					
Very deep soils that have a fragipan and formed in medium textured, firm, low-lime glacial till derived from sandstone and siltstone; with a mesic temperature regime		Mardin	Venango	Chippewa	
Very deep, medium textured soils formed in friable, low-lime glacial till derived from sandstone, siltstone, and shale; with a mesic temperature regime	Chadakoin				
Very deep soils that have a fragipan and formed in medium textured, firm, low-lime glacial till derived from shale and siltstone; with a frigid temperature regime		Pinckney	Camroden	Marcy	Tughill
Very deep, moderately coarse textured soils formed in friable, low-lime glacial till derived from granite and gneiss; with a frigid temperature regime	Bice				
Very deep, medium textured soils formed in high-lime glacial till derived from limestone; $CaCO_3$ within a depth of 40 inches; with a mesic temperature regime	Nellis	Amenia	Kendaia		
Very deep, medium textured soils formed in high-lime glacial till derived from limestone; $CaCO_3$ at a depth of more than 40 inches; with a mesic temperature regime	Pittsfield				
Very deep soils that have a fragipan and formed in moderately coarse textured, firm, low-lime glacial till derived from sandstone, siltstone, and shale; with a frigid temperature regime	Worth	Empeyville	Westbury	Dannemora	Tughill
Very deep, medium textured soils formed in firm, high-lime glacial till derived from limestone and calcareous shale; with a mesic temperature regime	Honeoye	Lima	Kendaia	Lyons	
Very deep, medium textured or moderately fine textured soils formed in medium-lime glacial till derived from limestone; with a mesic temperature regime	Lansing	Conesus	Appleton	Lyons	
Very deep, medium textured or moderately fine textured soils formed in medium-lime till; with a dark surface layer and a mesic temperature regime			Manheim		

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County--Continued

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS ON TILL PLAINS--Continued					
Very deep, moderately fine textured soils formed in firm glacial till derived from reddish shale; with a mesic temperature regime		Cazenovia	Ovid		
Very deep, moderately coarse textured or medium textured soils formed in friable, medium-lime glacial till derived from shale and some limestone; with a frigid temperature regime	Pyrities	Kalurah	Malone	Runeberg	
Very deep, moderately coarse textured or coarse textured soils formed in firm, low-lime, sandy glacial till; with a frigid temperature regime	Becket	Skerry	Adirondack	Adirondack	
Very deep, moderately coarse textured soils formed in friable or firm, low-lime glacial till; with a frigid temperature regime	Berkshire				
Moderately deep, medium textured soils formed in friable, high-lime glacial till derived from limestone; with a mesic temperature regime	Galway				
Shallow, medium textured soils formed in friable, high-lime glacial till derived from limestone; with a mesic temperature regime	Farmington				
Moderately deep, medium textured or moderately fine textured soils formed in high-lime glacial till derived from shale; with a mesic temperature regime	Lairdsville	Aurora			
Moderately deep, channery, medium textured soils formed in low-lime glacial till derived from shale, siltstone, and sandstone; with a mesic temperature regime	Manlius		Greene		
Moderately deep, medium textured (coarse-loamy) soils formed in low-lime glacial till derived from siltstone, sandstone, and shale; with a frigid temperature regime	Mongaup				
Moderately deep, medium textured (fine-loamy) soils formed in low-lime till derived from shale and siltstone; with a frigid temperature regime		Ischua	Gretor		
Shallow, medium textured soils formed in low-lime till; with a frigid temperature regime				Torull	

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County--Continued

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS ON TILL PLAINS--Continued					
Shallow, channery, medium textured soils formed in low-lime glacial till derived from siltstone, shale, and sandstone; with a mesic temperature regime	Arnot			Tuller	
Moderately deep or shallow, moderately coarse textured soils formed in low-lime glacial till derived from gneiss and schist; with a frigid temperature regime	Tunbridge				
Shallow, moderately coarse textured soils formed in low-lime till derived from gneiss and schist; with a frigid temperature regime	Lyman				
SOILS ON OUTWASH PLAINS					
Very deep, coarse textured soils formed in low-lime, sandy glacial outwash; with a mesic temperature regime	Windsor	Covert	Wareham		
Very deep soils that have spodic characteristics and ortstein and formed in coarse textured glacial outwash; with a mesic temperature regime				Jebavy	
Very deep, moderately coarse textured soils formed in low-lime glacial outwash; with a mesic temperature regime	Knicker- bocker				
Very deep, moderately coarse textured over gravelly, coarse textured soils formed in medium-lime glacial outwash derived from sandstone and limestone; with a mesic temperature regime	Alton	Castile	Fredon		Halsey
Very deep, gravelly, medium textured to coarse textured soils formed in low-lime glacial outwash; with a mesic temperature regime	Chenango	Castile	Fredon		
Very deep soils that have spodic characteristics and formed in moderately coarse textured or coarse textured, low-lime glacial outwash; with a frigid temperature regime	Colosse				
Very deep soils that have spodic characteristics and formed in coarse textured, low-lime glacial outwash; with a frigid temperature regime	Adams	Croghan	Naumburg	Naumburg	

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County--Continued

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS ON OUTWASH PLAINS--Continued					
Very deep soils that have spodic characteristics and formed in sandy-skeletal, coarse textured, low-lime glacial outwash; with a frigid temperature regime	Colton				
Very deep, gravelly, medium textured to coarse textured soils formed in high-lime glacial outwash; with a mesic temperature regime	Howard	Phelps	Fredon	Fredon	Halsey
SOILS IN LACUSTRINE BASINS					
Very deep, moderately coarse textured soils formed in medium-lime deltaic sandy material; with a mesic temperature regime	Arkport		Minoa	Lamson	
Very deep, moderately coarse textured over moderately fine textured soils formed in lake deposits; with a mesic temperature regime			Niagara		
Very deep, medium textured or moderately fine textured soils formed in medium-lime lake sediments; with a mesic temperature regime		Collamer	Niagara	Canandaigua	
Very deep, moderately fine textured soils formed in firm, high-lime lacustrine deposits; with a mesic temperature regime		Schoharie			
Very deep, medium textured to fine textured soils formed in medium-lime lake sediments; with a mesic temperature regime			Rhinebeck	Canandaigua	
Very deep, medium textured or moderately coarse textured soils formed in low-lime, wind-and water-deposited sediments with a high content of silt and very fine sand; with a frigid temperature regime	Salmon	Nicholville	Roundabout		
Very deep, medium textured soils formed in low-lime, silty old alluvial and terrace deposits; with a mesic temperature regime	Unadilla	Scio			
Very deep soils that have a fragipan and formed in medium textured, low-lime lake sediments; with a mesic temperature regime			Wallington		

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County--Continued

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS ON FLOOD PLAINS					
Very deep, medium textured soils formed in medium-lime alluvial deposits; with a mesic temperature regime	Hamlin	Otego	Wakeville	Wayland	
Very deep, moderately coarse textured or medium textured soils formed in low-lime alluvial deposits; with a mesic temperature regime	Wenonah				
Very deep, medium textured soils formed in medium-lime alluvial fan deposits; with a mesic temperature regime		Herkimer			
Very deep, medium textured soils formed in medium-lime mineral material over organic material; with a mesic temperature regime					Wallkill
Very deep, coarse textured to moderately fine textured soils formed in thinly stratified alluvial sediments; with a mesic temperature regime		Udifluvents		Fluvaquents	
SOILS IN SWAMPS					
Very deep soils formed in 16 to 51 inches of well decomposed organic material over low-lime, coarse textured sediments; with a frigid temperature regime					Dawson
Very deep soils formed in more than 51 inches of moderately well decomposed, low-lime organic material; with a frigid temperature regime					Greenwood
Very deep soils formed in more than 51 inches of moderately decomposed organic material; with a mesic temperature regime					Napoleon
Very deep soils formed in more than 51 inches of well decomposed organic material over medium-lime, loamy sediments; with a mesic temperature regime					Carlisle
Very deep soils formed in 16 to 51 inches of well decomposed organic material over medium- or high-lime, loamy sediments; with a mesic temperature regime					Palms
Very deep soils formed in 16 to 51 inches of well decomposed organic material over medium-lime, sandy sediments; with a mesic temperature regime					Adrian

Table 25.--Drainage Classes and Landscape Positions of the Soils in Oneida County--Continued

Landscape position, depth, parent material, and soil temperature regime	Drainage class				
	Excessively drained to well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
SOILS IN SWAMPS--Continued					
Very deep soils formed in 16 to 51 inches of well decomposed organic material over medium-lime, moderately coarse textured or medium textured sediments; with a frigid temperature regime					Wonsqueak
Very deep soils that formed in well decomposed organic material more than 16 inches thick and are ponded much of the year; with a frigid temperature regime					Borosaprists
SOILS IN AREAS OF GLACIAL TILL, OUTWASH, AND LACUSTRINE PLAINS DISTURBED BY HUMAN ACTIVITIES					
Deep soils that formed in medium textured, mixed soil material		Udorthents	Udorthents		

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