



United States  
Department of  
Agriculture

In cooperation with Illinois  
Agricultural Experiment  
Station

# Soil Survey of Henderson County, Illinois



Natural  
Resources  
Conservation  
Service





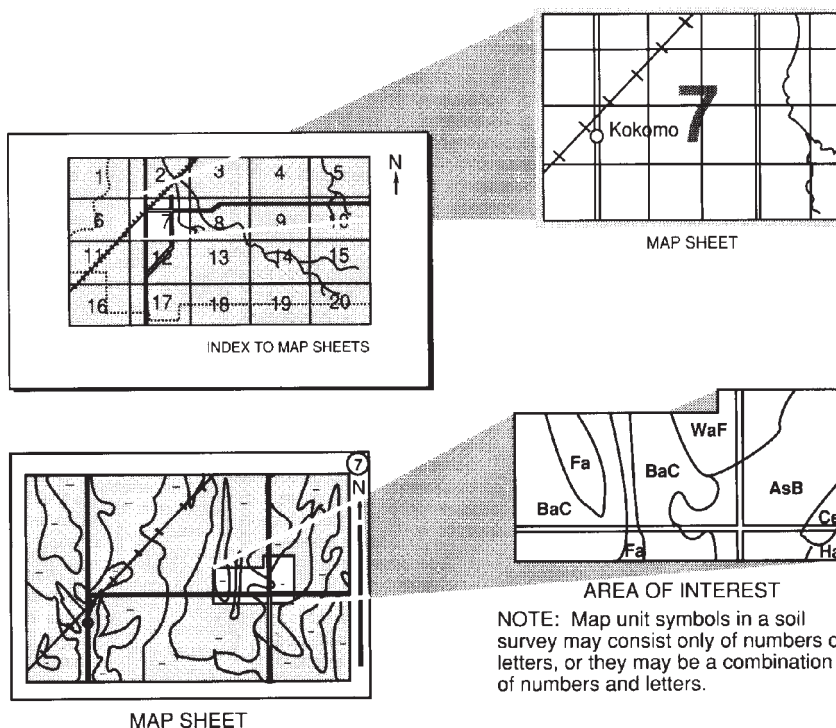
# How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided 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 Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Henderson County Soil and Water Conservation District. The survey was partially funded by the Illinois Department of Agriculture and by Henderson County.

Major fieldwork for this soil survey was completed in 2004. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. The most current official data are available on the Internet.

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 Photo Caption

A system of terraces and conservation tillage help to control erosion on the rolling hillslopes in Henderson County.

*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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# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys 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 surveys 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 surveys 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 too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. 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, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William J. Gradle  
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# Soil Survey of Henderson County, Illinois

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HENDERSON COUNTY is in western Illinois (fig. 1). It has an area of 253,310 acres, or about 396 square miles. In 2000, the county had a population of 8,213. Oquawka, the county seat, had a population of 1,639 (U.S. Department of Commerce, 2002). The county is bounded on the west by the Mississippi River, on the north by Mercer County, on the east by Warren County, and on the south by Hancock and McDonough Counties.

## General Nature of the Survey Area

This section provides some general information about Henderson County. It describes history and settlement; agriculture; relief, physiography, and drainage; and climate.

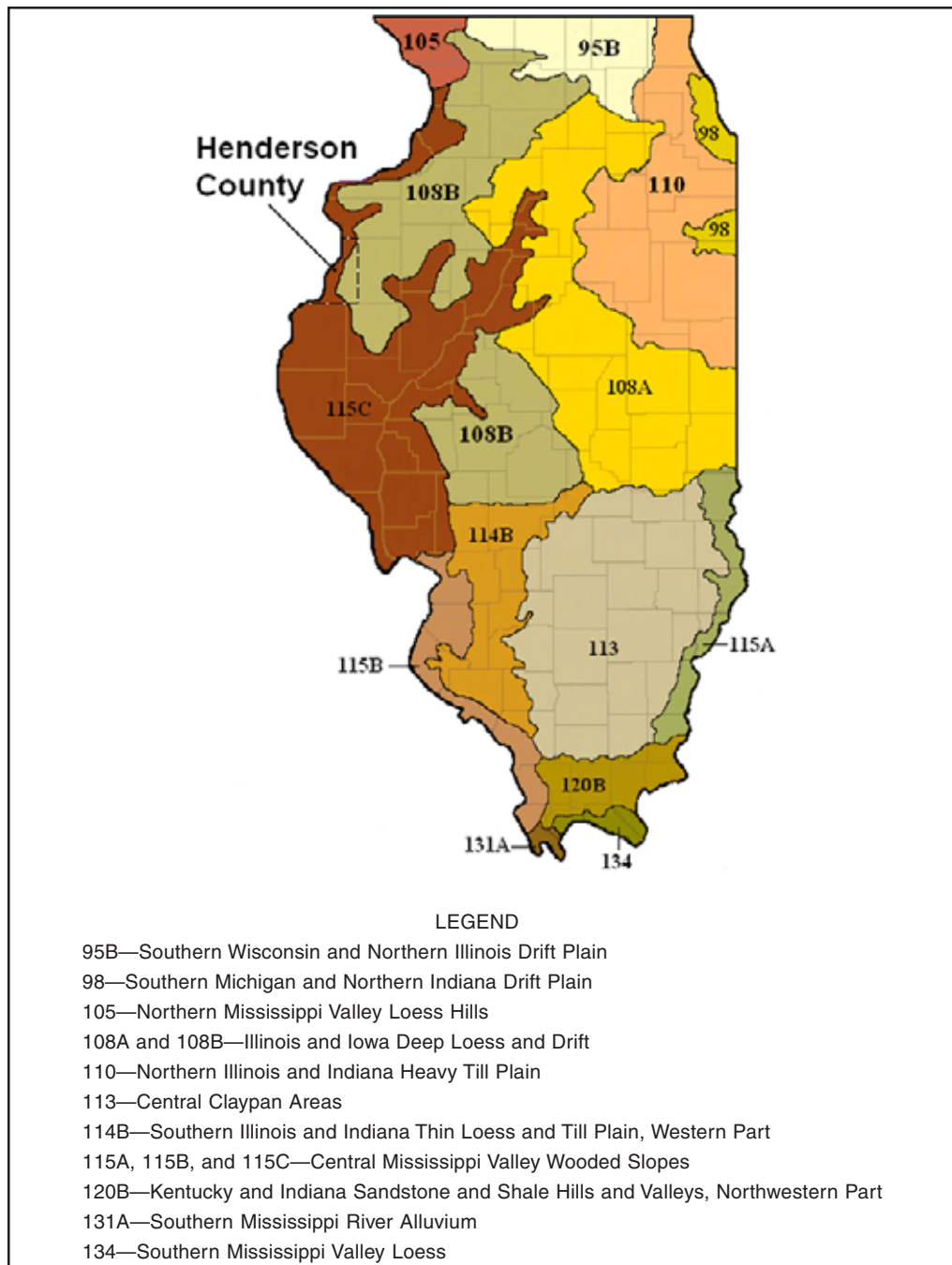
### History and Settlement

Henderson County was established by law on January, 1841, after having been part of Warren County since 1825. The first settlement in the survey area was at the present site of Oquawka in 1827. The county was named after Henderson County, Kentucky, which had been named after Colonel Richard Henderson. Oquawka has been the county seat since 1841.

### Agriculture

Agriculture has always been the major industry in Henderson County. The county has a high percentage of productive soils, good transportation facilities, nearby markets, and a favorable climate.





**Figure 1.—Location of Henderson County and major land resource areas (MLRAs) in Illinois.**

Although cash grain farming has increased, most of Henderson County is well adapted to combination grain and livestock farming because of its sloping topography, and a high percentage of farm income is derived from livestock and livestock products.

In 2002, the county had 392 farms that made up 201,200 acres (Illinois Agricultural Statistics Service, 2004). The average farm size was 513 acres. Corn, soybeans, and wheat are the major crops. In 2003, about 93,000 acres was used for corn, about 63,000 acres was used for soybeans, and about 1,600 acres was used for hay (Illinois Agricultural Statistics Service, 2004).

Hogs and beef cattle are important animal industries. In 2003, the number of hogs and pigs in the county was 22,000 and there were 18,400 cattle and calves (Illinois Agricultural Statistics Service, 2004).

## Relief, Physiography, and Drainage

Dr. Richard C. Anderson, retired, Department of Geology, Augustana College, helped prepare this section.

The landscape of Henderson County consists largely of broad, gently rolling uplands dissected by a system of parallel, west-flowing streams that are tributaries of the Mississippi River. The county is in the northern part of the region known as the Galesburg Plain. The flood plain along the Mississippi River, about 5 miles wide, is along the western margin of the county. Elevations range from 800 feet above sea level in the uplands near Raritan to 518 feet in the area along the Mississippi River at Dallas City (fig. 2).

Deposits of glacial till indicate that the county has been covered by glacial ice several times in the recent geologic past. More recently, it has received a cover of wind-deposited silt and very fine sand, or loess, blown in from the flood plain along the Mississippi River (Willman and Frye, 1970). The present landscape is almost entirely the result of the erosion of these deposits by water.

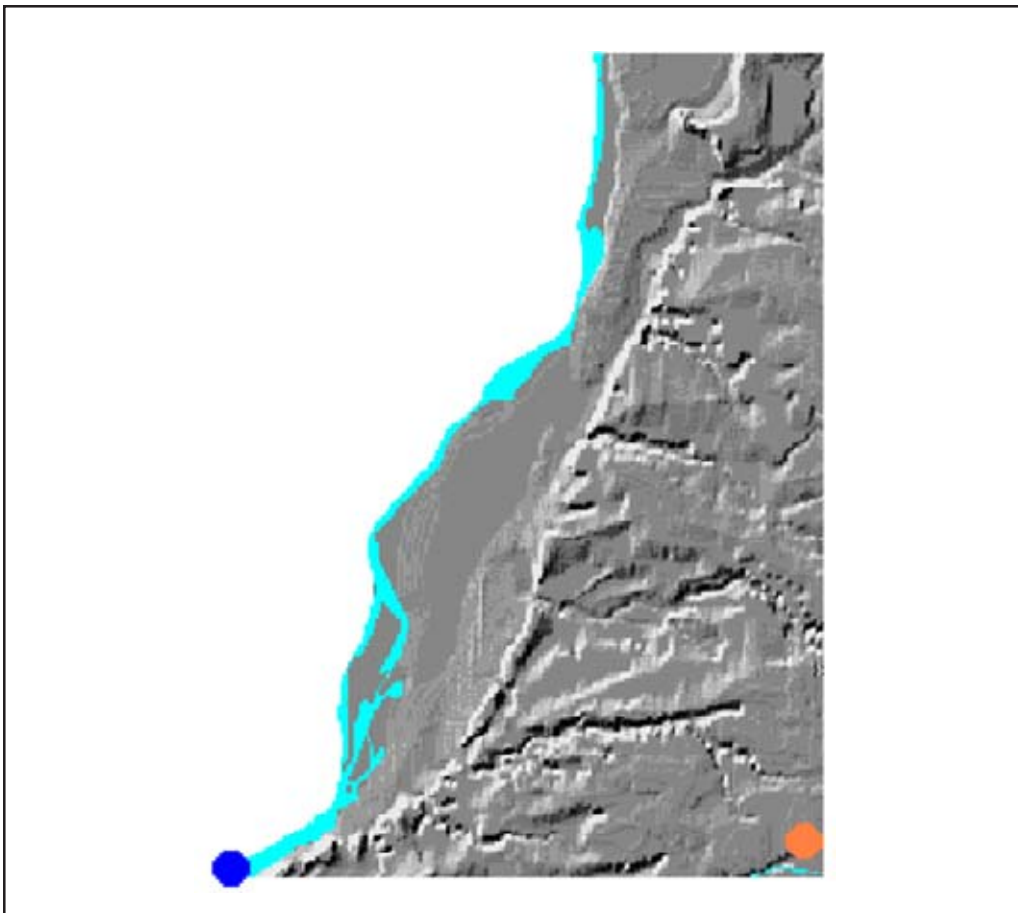


Figure 2.—A generalized relief map of Henderson County showing the highest and lowest points in the county. The orange dot represents the highest elevation (about 800 feet above sea level). The blue dot represents the lowest elevation (about 518 feet above sea level).

The interstream areas in the uplands are remnants of a very extensive loess-mantled till plain that once extended continuously across western and central Illinois (Illinois State Geological Survey, 1979; Leighton and Brophy, 1961). Erosion has created valleys that interrupt the continuity of this till plain and progressively modify and eliminate the upland plains as they widen and lengthen. The upland areas are long and narrow between the west-flowing streams and range in width from less than 1 mile in the eastern part of the county to as much as about 5 miles adjacent to a bluff along the Mississippi River.

The degree of stream dissection is generally greater in the eastern part of the county, near the headwaters of streams, than it is to the west, in the lower reaches of the drainage basins near the Mississippi River. This unusual relationship is probably a result of a decrease in the thickness and grain size of the loess from west to east, away from the source. Because it is thinner in the east, the cover of loess is more easily removed and the underlying glacial till more easily exposed. Removal of the loess accentuates the degree of stream dissection, reducing the width of the interstream uplands.

The loess not only is thicker to the west but also is coarser grained and thus more porous and less conducive to surface runoff and stream dissection. Also, geological evidence suggests that the period of stream dissection began while the loess was still accumulating. The accumulating loess may have inhibited stream dissection to a greater degree to the west, close to the source area, than it did to the east. The uplands slope generally westward from an elevation of about 800 feet in the east to 518 feet in the west (fig. 2).

The streams in Henderson County are noteworthy because they are strikingly parallel and because their valleys are oriented from east to west. The origin of this pattern is unknown. The pattern may be inherited from the configuration of the underlying bedrock surface, it may reflect the initial slopes on the till plain, or it may be related to initial variations in the thickness of the loess deposits. These are only a few of the more obvious possible explanations. The major streams, namely Henderson Creek, South Henderson Creek, Ellison Creek, and Honey Creek, are parallel, as are their tributaries. Furthermore, there is marked asymmetry in the arrangement of the tributaries. They are longer and more numerous on the north sides of the major streams.

Nearly level bottom land is along all of the streams in the county. In general, the soils in these areas are poorly drained, are often flooded, and may be covered by standing water for several weeks during wet years. In contrast, only the lowest of the terraces are flooded, and then only during the most severe floods.

The flood plain along the Mississippi River makes up the western extremity of the county. Only parts of this flood plain are subject to flooding. These are the areas on the bottom land upstream from Dallas City and along the lower reaches of Ellison Creek and Honey Creek. The parts subjected to flooding make up less than half of the flood plain area in the county. Elsewhere, the flood plain consists of a sandy terrace at an elevation of 570 to 580 feet above sea level and about 40 feet above normal river levels. Unlike the terraces along the other streams in the county, this terrace is depositional, a result of sand washing downriver from the melting terminus of the continental glacier far to the north. Remnants of this terrace also are along Henderson Creek for a few miles upstream from the point where these streams enter the flood plain along the Mississippi River. In a few places, most notably around Oquawka, the surface of the terrace has been blown into dunes by the wind.

## **Climate**

Henderson County is cold in winter. In summer it generally is hot, but there are occasional cool spells. Precipitation falls as snow during frequent snowstorms in winter and chiefly as rain showers, which often are heavy, during the warmer periods, when

warm moist air moves in from the south. The amount of annual rainfall usually is adequate for corn, soybeans, and small grain.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Monmouth during the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is about 27 degrees F and the average daily minimum temperature is 18.3 degrees. The lowest temperature on record, which occurred at Monmouth on January 7, 1910, is -31 degrees. In summer, the average temperature is about 73.3 degrees and the average daily maximum temperature is 84.7 degrees. The highest recorded temperature, which occurred in Monmouth on July 12, 1936, is 108 degrees.

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 (50 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.

Total annual precipitation is 38.31 inches. Of this total, about 24.08 inches, or about 63 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 12.7 inches. The heaviest 1-day rainfall on record is 6.53 inches. Thunderstorms occur on about 50 days each year, and most occur in summer. The average seasonal snowfall is 28.4 inches. On average, 49 days of the year have at least 1 inch of snow on the ground. The number of such days, however, varies greatly from year to year.

Tornadoes and severe thunderstorms strike occasionally. They are of local extent and of short duration and cause only sparse damage in narrow belts. Hailstorms sometimes occur during the warmer periods. The hail falls in scattered small areas.

## **How This Survey Was Made**

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 108B and 115C (fig. 1). Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA, 2006). Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout the MLRA. This soil survey updates a survey of Henderson County published in 1956 (Veale and Wascher, 1956) and provides the soil information on USGS 7.5-minute Digital Ortho Quad sheets for use in future geographic information systems.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses.

Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; and the kinds of crops and native plants. 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 survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. 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 survey area and relating their position to specific segments of the

landform, soil scientists develop a concept, or model, of how the soils 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 landform.

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, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area 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 survey area, 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 water table within certain depths in most years, but they cannot predict that a water table will always be at a specific level in the soil on a specific date.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved 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.

# Formation and Classification of the Soils

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This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

## Formation of the Soils

Soil-forming processes act on deposited or accumulated geologic material. The characteristics of the soil at any given point are determined by the parent material, living organisms both on and in the soil, the climate, the topography, and the length of time that the forces of soil formation have acted on the soil material (Jenny, 1941).

Climate and living organisms are active factors of soil formation. As they act on the parent material that has accumulated through the weathering of rocks and that may have been relocated by water, glaciers, or wind, they slowly change the material into a natural body that has genetically related horizons. The effects of climate and living organisms are conditioned by topography. The parent material affects the kind of soil profile that forms. Finally, time is needed for changing the parent material into a soil. Usually, a long time is needed for the formation of distinct horizons. The importance of each factor differs from place to place, and each modifies the effect of the other four. In some areas one factor dominates the formation of a soil. Human activities, such as clearing forests, cultivating, and applying fertilizer, also affect soil formation.

## Parent Material

Parent material is the unconsolidated mass in which a soil forms. It determines the limits of chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. Some of the parent materials in Henderson County were deposited by wind, by glaciers, or by meltwater from the glaciers. In some areas the soils have subsequently been reworked and redeposited by water and wind. The parent materials in the county are loess, glacial till, outwash, eolian deposits, lacustrine deposits, alluvium, and residuum, or material weathered from bedrock.

Peoria loess is the major parent material in Henderson County. The Mississippi River Valley was the main source of the loess. Wind picked up particles of silt from the valley floor and redeposited them in the uplands. The loess is about 30 feet thick on nearly level uplands near bluffs. Osco soils are examples of soils that formed in loess. These soils typically are medium textured or moderately fine textured and have well developed structure.

Glacial till is material that was laid down directly by glaciers with a minimum of water action. It consists of particles of different sizes. The small pebbles in glacial till have sharp corners, indicating that they have not been worn by water.

The glacial till in Henderson County is pre-Wisconsinan in age. A clayey paleosol that formed in till is near the head of many small drainageways leading from upland watershed divides. Glacial till also is common in the central part of the county. Atlas soils formed in till that has a paleosol. Loamy till dominates the lower side slopes along small drainageways and the slopes along many of the larger drainageways. Hickory soils are examples of soils that formed in loamy till.



Outwash was deposited by running water from melting glaciers. The size of the particles that make up outwash material varies according to the speed of the water that carried them. When the water slowed, the coarser particles were deposited. The finer particles, such as very fine sand, silt, and clay, were carried by the more slowly moving water. Outwash deposits generally consist of layers of similar sized particles, such as silt loam, sandy loam, and sand. Dickinson soils are examples of soils that formed in loamy and sandy outwash that has been reworked by the wind.

Eolian deposits are sediments deposited by the wind. Coloma soils formed in eolian deposits.

Lacustrine material was deposited from still or ponded glacial meltwater. Because the coarser fragments dropped out of moving water as outwash, only the finer particles, such as very fine sand, silt, and clay, remained to settle out in the still water. In Henderson County the lacustrine deposits are clayey. Niota soils are examples of soils that formed partly in these deposits.

Alluvial material was deposited by the floodwater of present streams in recent time. This material varies in texture, depending on the speed of water from which it was deposited. Sawmill and Radford soils are examples of alluvial soils.

The limestone bedrock in Henderson County generally is buried by loess, glacial till, outwash, and alluvium. Along side slopes on deeply dissected uplands, however, limestone residuum is a parent material. Dunbarton soils formed partly in this residuum.

## **Living Organisms**

Plants are the principal living organisms affecting the soils in Henderson County. Bacteria, fungi, and earthworms, however, also have affected soil formation. The chief contribution of plant and animal life is the addition of organic matter and nitrogen to the soil. The kind of organic material on and in the soil depends on the kind of plants that grew on the soil. The remains of these plants accumulate in the surface layer, decay, and eventually become organic matter. The roots of the plants provide channels for the downward movement of water through the soil and add organic matter as they decay. Bacteria in the soil help to break down the organic material and thus help to provide plant nutrients.

The native vegetation in the county was trees and prairie grasses. The sloping soils formed mainly under forests of oak, hickory, and similar trees. The nearly level soils formed under prairie grasses. They have a darker and thicker surface layer than that of the soils that formed under forest vegetation. Also, they have a higher content of organic matter. Fayette soils are examples of soils that formed under forest vegetation. Muscatune soils are examples of soils that formed under prairie vegetation.

## **Climate**

Climate is an important factor in the formation of soils. It influences the kinds of plant and animal life on and in the soil. Precipitation affects the weathering of minerals and the transporting of soil material. Temperature determines the rate of chemical reaction that occurs in the soil. The general climate has had an important overall influence on the characteristics of the soils, but it does not cause major differences among soils in a relatively small area, such as a county.

The climate in Henderson County is temperate and humid. It is probably similar to the climate under which the soils formed.

## **Topography**

Topography, or relief, has a marked influence on the soils through its effect on natural drainage, erosion, plant cover, and soil temperature. In Henderson County, the



slopes dominantly range from 0 to 60 percent. Natural soil drainage classes range from well drained on upland ridgetops to very poorly drained in depressions.

Topography influences the formation of soils by affecting runoff and drainage. Drainage in turn, through its effect on aeration of the soils, determines the color of the soil. Runoff is most rapid on the steeper slopes, but in low areas, water is temporarily ponded. Water and air move freely through well drained soils but slowly through poorly drained soils. In well aerated soils, the iron compounds that give most soils their color are brightly colored. In poorly aerated soils, the colors are gleyed and mottled. Seaton soils are examples of well drained, well aerated soils. Sable soils are examples of poorly drained, poorly aerated soils.

## Time

The length of time needed for the formation of a soil depends on the other factors of soil formation. Differences in the length of time that the parent materials have been in place are commonly reflected in the degree of profile development. Soils form more rapidly and are more acid if the parent material is low in content of calcium (lime). The more rapidly permeable soils form more readily than slowly permeable soils because calcium and other soluble minerals are leached more quickly. Soils form more quickly under forest vegetation than under prairie vegetation because grasses are more efficient in recycling calcium and other bases from the subsoil to the surface layer. Soils generally form more quickly in a humid climate than a dry climate.

The soils in Henderson County range from young to mature. Most of the soils on uplands are moderately developed.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). 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 4 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 Mollisol.

**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 Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

**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; 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 Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic 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 known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Typic Endoaquolls.

**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, mineral content, cation-exchange capacity, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Endoaquolls.

**SERIES.** The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

# Soil Series and Detailed Soil Map Units

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In this section, arranged in alphabetical order, each soil series recognized in the survey area is described. Each series description is followed by descriptions of the associated detailed soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is 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, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units 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. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties."

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 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 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, Fayette silt loam, 5 to 10 percent slopes, eroded, is a phase of the Fayette series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes. 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 maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Rozetta-Elco silt loams, 10 to 18 percent slopes, eroded, is an example.

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

Table 5 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.

## ***Ambraw Series***

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls

### **Typical Pedon**

Ambraw clay loam, 0 to 2 percent slopes, rarely flooded; 2,400 feet north and 160 feet east of the southwest corner of sec. 11, T. 19 N., R. 3 E.; Whiteside County, Illinois; USGS Erie NW topographic quadrangle; lat. 41 degrees 38 minutes 57 seconds N. and long. 90 degrees 07 minutes 54 seconds W., NAD 27:

Ap—0 to 10 inches (0 to 25 cm); black (10YR 2/1) clay loam, very dark grayish brown (10YR 3/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; slightly acid; abrupt smooth boundary.

A—10 to 20 inches (25 to 51 cm); very dark gray (10YR 3/1) clay loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; neutral; clear smooth boundary.

Bg1—20 to 27 inches (51 to 69 cm); dark gray (10YR 4/1) clay loam; moderate medium and fine subangular blocky structure; friable; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine concretions of iron and manganese oxides throughout the matrix; common fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; clear smooth boundary.

- Bg2—27 to 32 inches (69 to 81 cm); dark gray (10YR 4/1) clay loam; weak medium prismatic structure; friable; few fine concretions of iron and manganese oxides throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; slightly acid; clear smooth boundary.
- Bg3—32 to 36 inches (81 to 91 cm); gray (5Y 5/1) clay loam; weak medium subangular blocky structure; friable; very dark gray (10YR 3/1) krotovina 1 inch wide at a depth of 34 to 35 inches; few fine concretions of iron and manganese oxides throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; abrupt smooth boundary.
- Bg4—36 to 45 inches (91 to 114 cm); gray (5Y 5/1) clay loam with thin strata of gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable; few fine soft masses of iron and manganese oxides throughout the matrix; few fine prominent brown (7.5YR 5/4) and common fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; slightly acid; gradual smooth boundary.
- Cg—45 to 60 inches (114 to 153 cm); stratified grayish brown (2.5Y 5/2) clay loam, very dark grayish brown (2.5Y 3/2) sandy clay loam, and brown (10YR 5/3) loamy sand; massive; friable; few fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 64 cm)

*Depth to free carbonates:* More than 50 inches (127 cm)

*Thickness of the solum:* 40 to 60 inches (102 to 153 cm)

*Ap or A horizon:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—clay loam, loam, sandy loam, sandy clay loam, or silty clay loam

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—loam, clay loam, sandy clay loam, or clay

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 or 5

Chroma—0 to 2

Texture—stratified sand, loamy sand, sandy loam, loam, silt loam, sandy clay loam, and clay loam

## 3302A—Ambraw loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Ambraw and similar soils: 85 percent

Dissimilar soils: 15 percent

### **Minor Components**

*Similar soils:*

- Soils that have more clay and less sand
- Soils that have a dark surface horizon more than 24 inches thick

*Dissimilar soils:*

- The somewhat poorly drained Lawson soils at the slightly higher elevations

### **Properties and Qualities of the Ambraw Soil**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from  
flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## **7302A—Ambraw clay loam, 0 to 2 percent slopes, rarely flooded**

### **Setting**

*Landform:* Flood plains

### **Map Unit Composition**

Ambraw and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

*Similar soils:*

- Soils that have more sand and less clay
- Soils that have a dark surface horizon more than 24 inches thick

*Dissimilar soils:*

- The somewhat poorly drained Shaffton and Tice soils at the slightly higher elevations
- The well drained Dozaville soils on flood plains

### ***Properties and Qualities of the Ambraw Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Rare, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

### ***Assumption Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Oxyaquic  
Hapludalfs

*Taxadjunct features:* The Assumption soils in Henderson County have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils.

### ***Typical Pedon***

Assumption silt loam, on a west-facing, convex slope of 4 percent, in a cultivated field at an elevation of 720 feet; 100 feet north and 300 feet east of the southwest corner of sec. 29, T. 15 N., R. 2 E., Henry County, Illinois; USGS Andover quadrangle; lat. 41 degrees 15 minutes 01 second N. and long. 90 degrees 17 minutes 58 seconds W., NAD 83:

Ap—0 to 15 cm (0 to 6 inches); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; many fine roots throughout; neutral; abrupt smooth boundary.

A—15 to 33 cm (6 to 13 inches); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine roots throughout; slightly acid; clear smooth boundary.

AB—33 to 41 cm (13 to 16 inches); very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, grayish brown (10YR 5/2) and brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; many fine roots throughout; neutral; clear wavy boundary.

Bt1—41 to 66 cm (16 to 26 inches); brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 5/3) clay films on faces of peds; slightly acid; clear wavy boundary.



- Bt2—66 to 89 cm (26 to 35 inches); brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of iron and common faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; abrupt wavy boundary.
- 2Bt3—89 to 130 cm (35 to 51 inches); yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; common fine roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of iron and common medium prominent light olive gray (5Y 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.
- 2Bt4—130 to 152 cm (51 to 60 inches); brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of iron in the matrix; slightly acid; clear wavy boundary.
- 2C—152 to 203 cm (60 to 80 inches); brown (10YR 5/3) clay loam; massive; firm; common coarse faint brown (7.5YR 4/4) masses of iron and common coarse faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 20 to 40 inches (51 to 102 cm)

*Thickness of the solum:* 48 to more than 70 inches (122 to more than 178 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

Reaction—moderately acid to neutral

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 6

Texture—silty clay loam or silt loam

Reaction—strongly acid to neutral

*2Btg or 2Bt horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, loam, clay, or silty clay

Reaction—strongly acid to neutral

*2C or 2Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, loam, clay, or silty clay

Reaction—slightly acid to moderately alkaline

## **259C2—Assumption silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Assumption and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more than 40 inches of loess over the underlying till
- Soils in which the loess is less than 20 inches thick
- Soils that have a thinner or lighter colored surface layer

*Dissimilar soils:*

- The poorly drained Radford soils in drainageways

### ***Properties and Qualities of the Assumption Soil***

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Atlas Series***

*Taxonomic classification:* Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs

### ***Typical Pedon***

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 665 feet; 1,200 feet west and 50 feet south of the northeast corner of sec. 7, T. 1 N., R. 6 W.; USGS

Coatsburg topographic quadrangle; lat. 40 degrees 05 minutes 40 seconds N. and long. 91 degrees 07 minutes 52 seconds W., NAD 27:

- Ap—0 to 7 inches (0 to 18 cm); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots; common medium prominent strong brown (7.5YR 5/8) and few fine distinct yellowish brown (10YR 5/6) masses of iron throughout; few fine prominent black (2.5Y 2.5/1) masses of iron and manganese throughout; slightly acid; clear smooth boundary.
- BE—7 to 13 inches (18 to 33 cm); brown (10YR 5/3) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; common fine roots; few fine distinct light brownish gray (10YR 6/2) clay depletions throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron throughout; slightly acid; clear wavy boundary.
- 2Btg1—13 to 26 inches (33 to 66 cm); dark gray (10YR 4/1) silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; firm; common fine and few medium roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron and few fine prominent white (10YR 8/1) masses of barite throughout; moderately acid; clear wavy boundary.
- 2Btg2—26 to 37 inches (66 to 94 cm); 87 percent dark gray (10YR 4/1) and 10 percent gray (10YR 5/1) silty clay; weak medium prismatic structure; firm; common fine and medium roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of iron and few fine prominent white (10YR 8/1) masses of barite throughout; 1 percent rounded gravel and 1 percent subangular limestone-cherty gravel; neutral; clear wavy boundary.
- 2Btg3—37 to 47 inches (94 to 119 cm); gray (2.5Y 5/1) silty clay; weak coarse prismatic structure; firm; common fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron throughout and few fine faint gray (10YR 6/1) iron depletions and few fine distinct white (10YR 8/1) masses of barite throughout; 1 percent angular gravel; neutral; clear wavy boundary.
- 2Btg4—47 to 61 inches (119 to 155 cm); gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine distinct black (2.5Y 2/1) masses of iron and manganese and few fine prominent white (10YR 8/1) barite crystals throughout; 1 percent limestone-cherty gravel and 1 percent rounded igneous-granite gravel; neutral; clear wavy boundary.
- 2BCg—61 to 80 inches (155 to 203 cm); light brownish gray (2.5Y 6/2) clay loam; weak coarse prismatic structure; firm; few fine prominent yellowish brown (10YR 5/6) and common medium prominent brownish yellow (10YR 6/8) masses of iron throughout; 2 percent limestone-cherty gravel; neutral.

### Range in Characteristics

*Depth to the base of the argillic horizon:* More than 42 inches (107 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 4

Texture—silt loam, loam, silty clay loam, or clay loam

*E or BE horizon:*

Hue—10YR

Value—4 or 5

Chroma—1 to 4  
Texture—silt loam or silty clay loam

*Bt, Btg, or 2Btg horizon:*

Hue—10YR, 2.5Y, 5Y, or N  
Value—4 to 6  
Chroma—0 to 3  
Texture—clay loam, clay, silty clay loam, or silty clay  
Content of rock fragments—0 to 5 percent

*2BCg or 2Cg horizon (where present):*

Hue—10YR, 7.5YR, 2.5Y, 5Y, or N  
Value—4 to 6  
Chroma—0 to 6  
Texture—silty clay loam, clay loam, or loam  
Content of rock fragments—2 to 15 percent

## **957D2—Elco-Atlas silt loams, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Elco and similar soils: 50 percent  
Atlas and similar soils: 40 percent  
Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have 40 to 60 inches of loess over the till
- Soils that have more sand and less silt in the surface layer
- Soils that have more clay and less silt in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Orion soils in drainageways

### ***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over a paleosol that formed in till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Atlas Soil***

*Parent material:* Paleosol that formed in till

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January through May

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Elco—3e; Atlas—4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Elco—not hydric; Atlas—not hydric

## **957D3—Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Elco and similar soils: 45 percent

Atlas and similar soils: 40 percent

Dissimilar soils: 15 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more silt and less clay in the surface layer
- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Orion soils in drainageways

### ***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
 February through April  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### ***Properties and Qualities of the Atlas Soil***

*Parent material:* Paleosol that formed in till  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Very slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 7.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January  
 through May  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Elco—4e; Atlas—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Elco—not hydric; Atlas—not hydric

## ***Atterberry Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

### **Typical Pedon**

Atterberry silt loam, 0 to 2 percent slopes; 1,650 feet north and 1,120 feet east of the southwest corner of sec. 34, T. 16 N., R. 9 E.; Bureau County, Illinois; USGS Princeton South topographic quadrangle; lat. 41 degrees 19 minutes 30 seconds N. and long. 89 degrees 26 minutes 47 seconds W., NAD 27:

- Ap—0 to 9 inches (0 to 23 cm); very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.
- E—9 to 13 inches (23 to 33 cm); light brownish gray (10YR 6/2) silt loam; moderate thin platy structure; friable; few fine roots; common fine faint grayish brown (10YR 5/2) clay depletions in the matrix; slightly acid; clear smooth boundary.
- BE—13 to 17 inches (33 to 43 cm); brown (10YR 5/3) silt loam; moderate medium platy structure parting to moderate very fine subangular blocky; friable; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds and common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine dark



brown (7.5YR 3/2) concretions of iron and manganese oxide; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Bt—17 to 24 inches (43 to 61 cm); brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few fine roots; many faint dark grayish brown (10YR 4/2) clay films and common faint light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron in the matrix; strongly acid; clear smooth boundary.

Btg1—24 to 33 inches (61 to 84 cm); grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common fine distinct prominent brown (10YR 5/6) masses of iron in the matrix; strongly acid; clear smooth boundary.

Btg2—33 to 40 inches (84 to 102 cm); light brownish gray (2.5Y 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; common fine prominent rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; many fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; strongly acid; clear smooth boundary.

Btg3—40 to 48 inches (102 to 122 cm); light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; strongly acid; clear smooth boundary.

BCg—48 to 55 inches (122 to 140 cm); light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; friable; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; moderately acid; clear smooth boundary.

Cg—55 to 60 inches (140 to 153 cm); light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the solum:* 42 to 72 inches (107 to 183 cm)

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

Reaction—moderately acid to neutral

*E horizon:*

Value—4 to 6

Chroma—1 or 2

Reaction—strongly acid to neutral

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6  
 Chroma—2 to 4  
 Texture—silty clay loam or silt loam  
 Reaction—strongly acid to neutral

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Reaction—moderately acid to slightly alkaline

## **61A—Atterberry silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Summits

### ***Map Unit Composition***

Atterberry and similar soils: 98 percent  
 Dissimilar soils: 2 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

### ***Properties and Qualities of the Atterberry Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.5 to 3.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric



## 61B—Atterberry silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Summits

### *Map Unit Composition*

Atterberry and similar soils: 98 percent

Dissimilar soils: 2 percent

### *Minor Components*

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

### *Properties and Qualities of the Atterberry Soil*

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.5 to 3.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Beaucoup Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls

### **Typical Pedon**

Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded; 1,540 feet north and 1,860 feet east of the southwest corner of sec. 26, T. 20 N., R. 4 E.; Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 41 minutes 21 seconds N. and long. 90 degrees 00 minutes 34 seconds W., NAD 27:

- Ap—0 to 10 inches (0 to 25 cm); black (N 2.5/) silty clay loam, very dark gray (10YR 3/1) dry; weak medium and fine subangular blocky structure parting to moderate fine granular; friable; neutral; abrupt smooth boundary.
- AB—10 to 16 inches (25 to 41 cm); black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure parting to moderate fine granular; friable; few fine distinct dark yellowish brown (10YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.
- Bg1—16 to 24 inches (41 to 61 cm); dark gray (10YR 4/1) silty clay loam; moderate medium and fine subangular blocky structure; friable; few fine distinct dark yellowish brown (10YR 4/4) iron masses in the matrix; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bg2—24 to 33 inches (61 to 84 cm); dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine distinct brown (10YR 5/3) iron masses in the matrix; few fine iron and manganese concretions; neutral; clear smooth boundary.
- Bg3—33 to 43 inches (84 to 109 cm); grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine distinct dark yellowish brown (10YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.
- BCg—43 to 50 inches (109 to 127 cm); light brownish gray (2.5Y 6/2) silty clay loam; weak medium prismatic structure; friable; very dark gray (10YR 3/1) krotovina 2 inches wide at a depth of 46 inches; few fine prominent dark yellowish brown (10YR 4/6) iron masses in the matrix; slightly alkaline; gradual smooth boundary.
- Cg—50 to 60 inches (127 to 153 cm); grayish brown (2.5Y 5/2) and light brownish gray (2.5Y 6/2) silt loam; massive; friable; common medium and fine prominent strong brown (7.5YR 4/6) iron masses in the matrix; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 61 cm)

*Thickness of the solum:* 35 to 65 inches (89 to 165 cm)

*Ap or A horizon:*

Hue—10YR or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Bg or Btg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam

*BCg and/or Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 or 6

Chroma—0 to 2

Texture—silty clay loam or silt loam; thin strata of loam, sandy loam, fine sandy loam, or very fine sandy loam in some pedons

## 7070A—Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded

### *Setting*

*Landform:* Flood plains

### *Map Unit Composition*

Beaucoup and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Minor Components*

#### *Similar soils:*

- Soils that have a dark surface layer more than 24 inches thick
- Soils that have less silt and more sand in the surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Lawson, Shaffton, and Tice soils at the slightly higher elevations

### *Properties and Qualities of the Beaucoup Soil*

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very low

### *Interpretive Groups*

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained and either protected from  
flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## **Biggsville Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludolls

*Taxadjunct features:* The Biggsville soil in map unit 671C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Dystric Eutrudept.

### Typical Pedon

Biggsville silt loam, 0 to 2 percent slopes, at an elevation of 630 feet; 1,520 feet west and 200 feet south of the northeast corner of sec. 30, T. 19 N., R. 3 E.; Henry County, Illinois; USGS Hillsdale topographic quadrangle; lat. 41 degrees 36 minutes 40 seconds N. and long. 90 degrees 12 minutes 00 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.
- AB—8 to 16 inches (20 to 41 cm); very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure parting to moderate fine granular; friable; few fine roots; neutral; gradual smooth boundary.
- Bw1—16 to 32 inches (41 to 81 cm); brown (10YR 4/3) and dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.
- Bw2—32 to 47 inches (81 to 119 cm); brown (10YR 4/3) silt loam; moderate medium prismatic structure; friable; common medium distinct brown (7.5YR 4/4) and yellowish brown (10YR 5/6) masses of iron in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine black (7.5YR 2/1) iron and manganese oxide stains; slightly acid; gradual smooth boundary.
- Cg—47 to 80 inches (119 to 203 cm); grayish brown (10YR 5/2), brown (7.5YR 4/4), and yellowish brown (10YR 5/6) silt loam; massive; friable; few fine black (7.5Y 2/1) iron and manganese oxide stains; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Depth to the base of the cambic horizon:* More than 42 inches (107 cm)

*Ap, A, or AB horizon:*

Value—2 or 3

Chroma—1 to 3

Reaction—moderately acid to moderately alkaline (liming)

*Bw or BC horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Reaction—moderately acid to neutral

*C or Cg horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Reaction—slightly acid to moderately alkaline

## 671A—Biggsville silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### **Map Unit Composition**

Biggsville and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

#### *Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits
- The poorly drained Sable soils in depressions

### **Properties and Qualities of the Biggsville Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **671B—Biggsville silt loam, 2 to 5 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### **Map Unit Composition**

Biggsville and similar soils: 96 percent

Dissimilar soils: 4 percent

### **Minor Components**

#### *Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits
- The poorly drained Sable soils in depressions

### ***Properties and Qualities of the Biggsville Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **671C2—Biggsville silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### ***Map Unit Composition***

Biggsville and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a surface layer less than 8 inches thick

*Dissimilar soils:*

- The poorly drained Radford soils in drainageways

### ***Properties and Qualities of the Biggsville Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Birds Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents

### **Typical Pedon**

Birds silt loam, undrained, 0 to 2 percent slopes, frequently flooded; 2,050 feet north and 110 feet west of the southeast corner of sec. 36, T. 5 N., R. 4 W.; McDonough County, Illinois; USGS Fandon topographic quadrangle; lat. 40 degrees 22 minutes 26 seconds N. and long. 90 degrees 47 minutes 30 seconds W., NAD 27:

Ap—0 to 9 inches (0 to 23 cm); dark gray (10YR 4/1) silt loam, pale brown (10YR 6/3) dry; thin strata of dark gray (10YR 4/1), very dark gray (10YR 3/1), and light yellowish brown (10YR 6/4) silt loam; moderate fine granular structure; friable; few fine distinct yellowish brown (10YR 5/8) iron masses in the matrix; slightly effervescent; moderately alkaline; abrupt smooth boundary.

Cg1—9 to 22 inches (23 to 56 cm); gray (10YR 5/1) silt loam; thin strata of light gray (10YR 7/1) and dark gray (10YR 4/1) silt loam; massive; friable; few fine faint light brownish gray (10YR 6/2) iron depletions and few fine prominent yellowish brown (10YR 5/8) iron masses in the matrix; few fine rounded black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; slightly effervescent; moderately alkaline; clear smooth boundary.

Cg2—22 to 37 inches (56 to 94 cm); gray (10YR 5/1) silt loam; thin strata of dark gray (10YR 4/1) silt loam; massive; friable; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine prominent yellowish brown (10YR 5/8) iron masses in the matrix; few fine rounded black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; neutral; clear smooth boundary.

Cg3—37 to 60 inches (94 to 153 cm); light brownish gray (10YR 6/2) silt loam; thin strata of dark gray (10YR 4/1) silt loam; massive; friable; common fine faint dark gray (10YR 4/1) iron depletions and common fine and medium prominent yellowish brown (10YR 5/8) iron masses in the matrix; few fine rounded black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; slightly acid.

### **Range in Characteristics**

*Thickness of the solum:* 5 to 12 inches

*Ap or A horizon:*

Hue—10YR

Value—4 to 6

Chroma—1 or 2

Texture—silt loam



*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam; silt loam with thin strata of loam, clay loam, silty clay loam, sandy loam, fine sandy loam, or very fine sandy loam in some pedons

**3334A—Birds silt loam, 0 to 2 percent slopes, frequently flooded*****Setting****Landform:* Flood plains***Map Unit Composition***

Birds and similar soils: 97 percent

Dissimilar soils: 3 percent

***Minor Components****Similar soils:*

- Soils that have more sand and less silt throughout
- Soils that have more clay and less silt throughout

*Dissimilar soils:*

- The well drained Coloma and Raddle soils on adjacent terraces

***Properties and Qualities of the Birds Soil****Parent material:* Alluvium*Drainage class:* Poorly drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 11.9 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 4.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* At the surface, November through June*Frequency and most likely period of flooding:* Frequent, November through June*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and low for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 3w*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season*Hydric soil status:* Hydric

## **Camden Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Camden silt loam, 0 to 2 percent slopes; 1,280 feet west and 1,740 feet south of the northeast corner of sec. 12, T. 15 N., R. 8 E.; Bureau County, Illinois; USGS Wyanet topographic quadrangle; lat. 41 degrees 18 minutes 05 seconds N. and long. 89 degrees 30 minutes 52 seconds W., NAD 27:

- Ap—0 to 7 inches (0 to 18 cm); brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.
- E—7 to 12 inches (18 to 30 cm); yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to weak fine subangular blocky; friable; few fine roots; neutral; clear smooth boundary.
- Bt1—12 to 18 inches (30 to 46 cm); yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; neutral; clear smooth boundary.
- Bt2—18 to 26 inches (46 to 66 cm); yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt3—26 to 34 inches (66 to 86 cm); yellowish brown (10YR 5/6) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt4—34 to 37 inches (86 to 94 cm); strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; friable; few fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; about 7 percent gravel; slightly acid; clear smooth boundary.
- 2Bt5—37 to 48 inches (37 to 122 cm); strong brown (7.5YR 5/6) sandy clay loam; 1-inch strata of yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films on faces of peds; about 5 percent gravel; slightly acid; clear smooth boundary.
- 2Bt6—48 to 53 inches (122 to 135 cm); strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay bridging between sand grains; about 2 percent gravel; neutral; clear wavy boundary.
- 2C—53 to 60 inches (135 to 153 cm); brown (7.5YR 4/4) sandy loam that has thin strata of loamy sand; massive; very friable; about 5 percent gravel; neutral.

### **Range in Characteristics**

*Depth to the base of the argillic horizon:* 35 to 60 inches (89 to 153 cm)

#### *Ap horizon:*

Hue—10YR  
Value—3 to 5  
Chroma—2 or 3  
Texture—silt loam

#### *E horizon:*

Hue—10YR  
Value—4 to 6

Chroma—2 to 4  
Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—3 to 6  
Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Value—3 to 6  
Texture—silty clay loam, loam, clay loam, sandy loam, fine sandy loam, sandy clay loam, or silt loam

*2C horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—3 to 6  
Texture—stratified sandy loam, loam, or silt loam with thin strata of other textures

## **134B—Camden silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Camden and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more sand and less silt in the upper part
- Soils that have more than 40 to 60 inches of loess or other silty material
- Soils that have less than 24 inches of silty material

*Dissimilar soils:*

- The somewhat poorly drained Wakeland soils in drainageways

### ***Properties and Qualities of the Camden Soil***

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Coloma Series**

*Taxonomic classification:* Mixed, mesic Lamellic Udipsamments

### **Typical Pedon**

Coloma sand, 1 to 7 percent slopes; 1,500 feet east and 1,800 feet south of the northwest corner of sec. 20, T. 14 N., R. 5 W.; Mercer County, Illinois; USGS Joy topographic quadrangle; lat. 41 degrees 11 minutes 49 seconds N. and long. 90 degrees 59 minutes 23 seconds W., NAD 27:

Ap—0 to 9 inches (0 to 23 cm); dark grayish brown (10YR 4/2) sand, light brownish gray (10YR 6/2) dry; weak medium granular structure; very friable; neutral; clear wavy boundary.

Bw1—9 to 16 inches (23 to 41 cm); brown (10YR 4/3) sand; single grain; loose; neutral; gradual wavy boundary.

Bw2—16 to 29 inches (41 to 74 cm); dark yellowish brown (10YR 4/4) sand; single grain; loose; slightly acid; gradual wavy boundary.

Bw3—29 to 50 inches (74 to 127 cm); yellowish brown (10YR 5/4) sand; single grain; loose; slightly acid; abrupt smooth boundary.

E and Bt1—50 to 65 inches (127 to 165 cm); about 95 percent yellowish brown (10YR 5/4) sand (E); single grain; loose; about 5 percent brown (7.5YR 4/4) loamy sand (Bt) consisting of several thin lamellae (total thickness less than 1 inch); weak fine and medium subangular blocky structure; very friable; neutral; clear smooth boundary.

E and Bt2—65 to 80 inches (165 to 203 cm); about 90 percent yellowish brown (10YR 5/4) sand (E); single grain; loose; about 10 percent brown (7.5YR 4/4) loamy sand (Bt) consisting of several thin lamellae (total thickness less than 2 inches); weak fine and medium subangular blocky structure; very friable; neutral.

### **Range in Characteristics**

*Depth to the first lamellae:* 40 to 60 inches (102 to 153 cm)

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—sand or loamy sand

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 6

Texture—sand or loamy sand

*E part of the E and Bt horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—4 to 7

Chroma—3 to 6  
Texture—sand, loamy sand, or sandy loam

*Bt part of the E and Bt horizon:*

Hue—5YR, 7.5YR, or 10YR  
Value—3 to 5  
Chroma—3 to 6  
Texture—sandy loam, loamy sand, or sand

*C horizon (where present):*

Hue—5YR, 7.5YR, or 10YR  
Value—4 to 7  
Chroma—3 to 6  
Texture—sand

## **689A—Coloma sand, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Coloma and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that do not have lamellae within a depth of 60 inches
- Soils that have a thicker surface horizon
- Soils that have more clay in the surface horizon
- Soils that have a darker surface horizon

*Dissimilar soils:*

- The well drained Crescent and Dickinson soils on terraces

### ***Properties and Qualities of the Coloma Soil***

*Parent material:* Sandy alluvium and/or eolian sands

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Moderately rapid or rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very high

### ***Interpretive Groups***

*Land capability classification:* 4s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 689B—Coloma sand, 1 to 7 percent slopes

### **Setting**

*Landform:* Stream terraces (fig. 3)

*Position on the landform:* Summits and shoulders

### **Map Unit Composition**

Coloma and similar soils: 85 percent

Dissimilar soils: 15 percent

### **Minor Components**

#### *Similar soils:*

- Soils that do not have thin lamellae within a depth of 60 inches
- Soils that have a thicker surface horizon
- Soils that have more clay in the surface horizon
- Soils that have a darker surface horizon

#### *Dissimilar soils:*

- The well drained Crescent and Dickinson soils on terraces

### **Properties and Qualities of the Coloma Soil**

*Parent material:* Sandy alluvium and/or eolian sands

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Moderately rapid or rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very high

### **Interpretive Groups**

*Land capability classification:* 4s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 689D—Coloma sand, 7 to 15 percent slopes

### **Setting**

*Landform:* Stream terraces and dunes

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Coloma and similar soils: 80 percent

Dissimilar soils: 20 percent

### **Minor Components**

#### *Similar soils:*

- Soils that do not have lamellae within a depth of 60 inches



Figure 3.—Coloma and Sparta soils in a dunal area on a terrace along the Mississippi River.

- Soils that have a thicker surface horizon
- Soils that have more clay in the surface horizon
- Soils that have a darker surface horizon

*Dissimilar soils:*

- Soils that have slopes of less than 7 percent
- The well drained Dickinson soils on toeslopes

***Properties and Qualities of the Coloma Soil***

*Parent material:* Eolian sands

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Moderately rapid or rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very high

***Interpretive Groups***

*Land capability classification:* 6s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

***Crescent Series***

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Typic Argiudolls

**Typical Pedon**

Crescent loam, 0 to 2 percent slopes, at an elevation of 510 feet; 255 feet south and 2,346 feet west of the northeast corner of sec. 28, T. 24 N., R. 5 W.; Tazewell County,



Illinois; USGS Pekin topographic quadrangle; lat. 40 degrees 30 minutes 40 seconds N. and long. 89 degrees 40 minutes 15 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; few very fine roots; moderately acid; abrupt smooth boundary.
- A—8 to 15 inches (20 to 38 cm); very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; friable; few very fine roots; moderately acid; clear smooth boundary.
- AB—15 to 18 inches (38 to 46 cm); dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—18 to 27 inches (46 to 66 cm); brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt2—27 to 34 inches (66 to 86 cm); dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt3—34 to 46 inches (86 to 117 cm); brown (7.5YR 4/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; slightly acid; abrupt smooth boundary.
- C1—46 to 60 inches (117 to 153 cm); brown (7.5YR 4/4) loamy sand and sand; massive; very friable; neutral; abrupt smooth boundary.
- C2—60 to 80 inches (153 to 203 cm); brown (7.5YR 4/4) sand; single grain; loose; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 61 cm)

*Thickness of the solum:* 40 to 60 inches (102 to 153 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam, silt loam, or fine sandy loam

*AB horizon (where present):*

Hue—10YR

Value—3 or 4

Chroma—3 or 4

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—clay loam, sandy clay loam, or loam

*C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—sand or loamy sand

**672A—Crescent loam, 0 to 2 percent slopes*****Setting***

*Landform:* Outwash plains

*Position on the landform:* Summits

***Map Unit Composition***

Crescent and similar soils: 90 percent

Dissimilar soils: 10 percent

***Minor Components***

*Similar soils:*

- Soils that have less than 40 inches of loamy sediments over the sandy outwash
- Soils that have more silt and less sand in the upper part
- Soils that have slopes of 2 to 5 percent

*Dissimilar soils:*

- The well drained Coloma and Sparta soils in the higher positions

***Properties and Qualities of the Crescent Soil***

*Parent material:* Outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**672B—Crescent loam, 2 to 5 percent slopes*****Setting***

*Landform:* Outwash plains and terraces

*Position on the landform:* Shoulders

***Map Unit Composition***

Crescent and similar soils: 87 percent

Dissimilar soils: 13 percent

***Minor Components***

*Similar soils:*

- Soils that have a thinner dark surface layer
- Soils that have less than 40 inches of loamy sediments over the sandy outwash

- Soils that have more silt and less sand in the upper part
- Soils that have slopes of less than 2 percent

*Dissimilar soils:*

- The well drained Coloma and Sparta soils in the higher positions

***Properties and Qualities of the Crescent Soil***

*Parent material:* Outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

***Denrock Series***

*Taxonomic classification:* Fine, mixed, superactive, mesic Aquic Argiudolls

***Typical Pedon***

Denrock silt loam, 0 to 2 percent slopes; 100 feet south and 740 feet west of the northeast corner of sec. 7, T. 19 N., R. 5 E.; Whiteside County, Illinois; USGS Prophetstown topographic quadrangle; lat. 41 degrees 39 minutes 20 seconds N. and 89 degrees 57 minutes 42 seconds W., NAD 27:

Ap—0 to 7 inches (0 to 18 cm); very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak medium granular; friable; moderately acid; abrupt smooth boundary.

A—7 to 13 inches (18 to 33 cm); dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure parting to weak medium granular; friable; many distinct dark brown (7.5YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

BA—13 to 18 inches (33 to 46 cm); brown (7.5YR 4/4) silty clay loam; moderate medium and fine subangular blocky structure; friable; few distinct dark brown (7.5YR 3/2) organic coatings on faces of peds; few distinct reddish brown (5YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt1—18 to 26 inches (46 to 66 cm); reddish brown (5YR 4/4) silty clay loam; moderate medium and fine subangular blocky structure; friable; many faint reddish brown (5YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt2—26 to 36 inches (66 to 91 cm); reddish brown (5YR 4/4) silty clay; moderate medium prismatic structure parting to strong medium angular blocky; firm; common faint reddish brown (5YR 4/3) clay films on faces of peds; few fine distinct brown (7.5YR 5/2) and red (2.5YR 4/6) iron masses in the matrix; moderately acid; abrupt smooth boundary.

2Bt3—36 to 40 inches (91 to 102 cm); brown (10YR 5/3) loam; moderate coarse angular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6), few fine prominent strong brown (7.5YR 4/6), and few fine faint pale brown (10YR 6/3) iron masses in the matrix; slightly acid; abrupt smooth boundary.

3Bt4—40 to 48 inches (102 to 122 cm); yellowish brown (10YR 5/4) sandy loam; weak coarse subangular blocky structure; friable; few prominent brown (7.5YR 4/4) clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions and few fine faint yellowish brown (10YR 5/4) iron masses in the matrix; slightly acid; clear smooth boundary.

3C—48 to 60 inches (122 to 153 cm); brown (7.5YR 5/4) sand; single grain; loose; few medium faint yellowish brown (10YR 5/4) and few fine faint strong brown (7.5YR 5/8) iron masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 16 inches (25 to 41 cm)

*Thickness of the solum:* 36 to 60 inches (91 to 153 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*2Bt horizon:*

Hue—5YR or 2.5YR

Value—3 to 5

Chroma—3 to 6

Texture—silty clay loam, silty clay, or clay

*3Bt horizon:*

Hue—2.5YR to 2.5Y

Value—4 or 5

Chroma—2 to 4

Texture—clay loam, loam, or sandy clay loam; stratified in some pedons

*3C horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—loamy sand or sand with strata of finer textures

## 262A—Denrock silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Lake plains

*Position on the landform:* Summits

### Map Unit Composition

Denrock and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The poorly drained Niota soils in the lower positions

***Properties and Qualities of the Denrock Soil***

*Parent material:* Glaciolacustrine deposits

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 7.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 1.0 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

***Dickinson Series***

*Taxonomic classification:* Coarse-loamy, mixed, superactive, mesic Typic Hapludolls

**Typical Pedon**

Dickinson sandy loam (fig. 4), 0 to 2 percent slopes; 360 feet north and 1,720 feet west of the center of sec. 17, T. 17 N., R. 6 E.; Bureau County, Illinois; USGS Mineral topographic quadrangle; lat. 41 degrees 27 minutes 37 seconds N. and long. 89 degrees 50 minutes 09 seconds W., NAD 27:

Ap—0 to 8 inches (0 to 20 cm); very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; few fine roots; moderately acid; abrupt smooth boundary.

A1—8 to 15 inches (20 to 38 cm); very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; very friable; few fine roots; moderately acid; clear smooth boundary.

A2—15 to 20 inches (38 to 51 cm); very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; very friable; few fine roots; common very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw—20 to 31 inches (51 to 79 cm); brown (10YR 4/3) sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt—31 to 36 inches (79 to 91 cm); yellowish brown (10YR 5/6) loamy sand; weak medium prismatic structure parting to weak medium subangular blocky; very friable; common distinct brown (10YR 4/3) clay bridging between sand grains; slightly acid; clear smooth boundary.





Figure 4.—Profile of a Dickinson soil. These soils are on sandy terraces along the Mississippi River. Depth is marked in centimeters.

BC—36 to 47 inches (91 to 119 cm); yellowish brown (10YR 5/6) sand; weak coarse prismatic structure; very friable; moderately acid; clear smooth boundary.  
 C—47 to 60 inches (119 to 152 cm); yellowish brown (10YR 5/6) sand; single grain; loose; strong brown (7.5YR 5/6) bands of loamy sand  $\frac{1}{2}$  inch to 2 inches thick at depths of 52, 56, and 58 inches; moderately acid.

#### Range in Characteristics

*Thickness of the mollic epipedon:* 12 to 20 inches (30 to 51 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3  
Texture—fine sandy loam, sandy loam, or loam

*Bw horizon:*

Hue—10YR  
Value—3 to 5  
Chroma—2 to 4  
Texture—sandy loam or fine sandy loam

*BC and/or C horizon:*

Hue—7.5YR or 10YR  
Value—4 or 5  
Chroma—3 to 6  
Texture—loamy sand, sand, loamy fine sand, or fine sand

## **87A—Dickinson sandy loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits

### ***Map Unit Composition***

Dickinson and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a dark surface layer more than 24 inches thick
- Soils that have more clay in the subsoil
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The well drained Coloma soils in the higher positions

### ***Properties and Qualities of the Dickinson Soil***

*Parent material:* Eolian sands over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric



## 87B—Dickinson sandy loam, 2 to 5 percent slopes

### **Setting**

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and summits

### **Map Unit Composition**

Dickinson and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

*Similar soils:*

- Soils that have a dark surface layer more than 24 inches thick
- Soils that have more clay in the subsoil
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The well drained Coloma soils in the higher positions

### **Properties and Qualities of the Dickinson Soil**

*Parent material:* Loamy and/or sandy alluvium and/or eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Dozaville Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluventic Hapludolls

### **Typical Pedon**

Dozaville silt loam, 0 to 2 percent slopes, rarely flooded; 2,200 feet south and 2,350 feet west of the northeast corner of sec. 1, T. 9 N., R. 6 E.; Henderson County, Illinois; USGS Burlington topographic quadrangle; lat. 40 degrees 48 minutes 05 seconds N. and long. 91 degrees 01 minute 38 seconds W., NAD 27:

Ap—0 to 6 inches (0 to 15 cm); very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; weak very fine subangular blocky structure parting to weak fine granular; friable; slightly acid; abrupt smooth boundary.

- A—6 to 14 inches (15 to 36 cm); very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; weak medium prismatic structure; friable; many distinct black (10YR 2/1) organic coatings lining root channels; slightly acid; gradual smooth boundary.
- Bw1—14 to 22 inches (36 to 56 cm); dark grayish brown (10YR 4/2) and brown (10YR 4/3) silt loam; weak medium prismatic structure parting to weak fine subangular blocky; friable; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine concretions of iron and manganese oxide throughout the matrix; common fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; clear smooth boundary.
- Bw2—22 to 33 inches (56 to 84 cm); brown (10YR 4/3) silt loam; weak medium and coarse prismatic structure; friable; few faint concretions of iron and manganese oxide throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; slightly acid; clear smooth boundary.
- Bw3—33 to 47 inches (84 to 119 cm); brown (10YR 4/3) silt loam; weak medium and coarse prismatic structure; friable; very dark gray (10YR 3/1) krotovina 1 inch wide at a depth of 34 to 35 inches; few fine concretions of iron and manganese oxide throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; abrupt smooth boundary.
- Bw4—47 to 54 inches (119 to 137 cm); dark yellowish brown (10YR 4/4) and brown (10YR 4/3) silt loam; weak medium prismatic structure; friable; few fine soft masses of iron and manganese oxide throughout the matrix; few fine prominent brown (7.5YR 5/4) and common fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; slightly acid; gradual smooth boundary.
- BC—54 to 61 inches (137 to 155 cm); brown (10YR 4/3), dark yellowish brown (10YR 4/4), and gray (10YR 5/1) silt loam; weak medium prismatic structure; friable; few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; gradual smooth boundary.
- 2C1—61 to 71 inches (155 to 180 cm); stratified dark yellowish brown (10YR 3/4) and brown (10YR 4/3) loamy sand; thin strata of dark grayish brown (10YR 4/2) sandy loam; massive; very friable; few fine prominent very dark brown (10YR 3/2) organic coatings lining root pores; neutral; gradual smooth boundary.
- 2C2—71 to 80 inches (180 to 203 cm); stratified grayish brown (10YR 5/2) loamy sand and sand; thin strata of sandy loam; massive; very friable; common very fine prominent brown (7.5YR 5/4) iron oxide masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 23 inches

*Depth to free carbonates:* More than 40 inches

*Thickness of the solum:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bw and BC horizons:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 or 4

Texture—silt loam, loam, or very fine sandy loam

*2C horizon:*

Hue—10YR or 7.5YR

Value—3 to 6

Chroma—2 to 4

Texture—loamy fine sand, loamy very fine sand, very fine sand, or fine sand;  
stratified in some pedons**7674A—Dozaville silt loam, 0 to 2 percent slopes, rarely flooded*****Setting****Landform:* Flood plains***Map Unit Composition***

Dozaville and similar soils: 85 percent

Dissimilar soils: 15 percent

***Minor Components****Similar soils:*

- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have more sand and less silt in the upper part

*Dissimilar soils:*

- The poorly drained Ambraw and Sawmill soils in the lower positions

***Properties and Qualities of the Dozaville Soil****Parent material:* Silty alluvium*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate to rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.8 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 4.0 percent*Shrink-swell potential:* Low*Frequency and most likely period of flooding:* Rare, November through June*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 2w*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric***Dunbarton Series****Taxonomic classification:* Clayey, smectitic, mesic Lithic Hapludalfs***Typical Pedon***

Dunbarton silt loam, 20 to 60 percent slopes; 500 feet east and 2,600 feet north of the southwest corner of sec. 4, T. 11 N., R. 3 W.; Warren County, Illinois; USGS Monmouth

topographic quadrangle; lat. 40 degrees 58 minutes 25 seconds N. and long. 90 degrees 44 minutes 42 seconds W., NAD 27:

- A—0 to 2 inches (0 to 5 cm); very dark grayish brown (10YR 3/2) silt loam, pale brown (10YR 6/3) dry; weak and moderate medium granular structure; friable; common roots; neutral; abrupt smooth boundary.
- E—2 to 4 inches (5 to 10 cm); brown (10YR 5/3) silt loam; weak thin platy structure; friable; about 1 percent gravel; moderately acid; abrupt smooth boundary.
- BE—4 to 10 inches (10 to 25 cm); yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; many prominent light gray (10YR 7/2) silt coatings on faces of peds; about 5 percent gravel; moderately acid; clear wavy boundary.
- 2Bt—10 to 16 inches (25 to 41 cm); reddish brown (5YR 4/4) silty clay; strong medium subangular blocky structure; firm; common faint brown (10YR 4/3) clay films on faces of peds; about 10 percent gravel; slightly acid; abrupt smooth boundary.
- 2Cr—16 to 20 inches (41 to 51 cm); fractured limestone bedrock with reddish brown (5YR 4/4) clay in vertical and horizontal cracks.
- 2R—20 inches (51 cm); limestone bedrock.

### Range in Characteristics

*Thickness of the loess:* 0 to 15 inches (0 to 38 cm)

*Thickness of the solum:* 12 to 20 inches (30 to 51 cm)

*Depth to bedrock:* 12 to 20 inches (30 to 51 cm)

*Ap horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 to 4

Texture—silt loam

*A horizon (in undisturbed areas):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E horizon (in undisturbed areas):*

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam

*BE or Bt horizon (where present):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam or silty clay loam

*2Bt horizon:*

Hue—2.5YR, 5YR, 7.5YR, or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam, clay loam, silty clay, or clay

*3Bt horizon (where present):*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—1 to 4

Texture—sandy loam, loam, or clay loam or the rock fragment analogs of these textures

## **505G—Dunbarton silt loam, 18 to 60 percent slopes**

### ***Setting***

*Landform:* Hillslopes

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Dunbarton and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that are underlain by shale
- Soils that are more than 20 inches deep to bedrock

*Dissimilar soils:*

- The well drained Fayette, Hickory, and Seaton soils on the upper slopes

### ***Properties and Qualities of the Dunbarton Soil***

*Parent material:* Thin mantle of loess over clayey pedisegment and/or residuum derived from dolomite

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow to moderate

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Available water capacity:* About 2.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Edgington Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

### ***Typical Pedon***

Edgington silt loam, 0 to 2 percent slopes; 222 feet west and 45 feet north of the southeast corner of NE<sup>1</sup>/<sub>4</sub> sec. 5, T. 25 N., R. 7 E.; Carroll County, Illinois; USGS Shannon topographic quadrangle; lat. 42 degrees 11 minutes 30.1 seconds N. and long. 89 degrees 42 minutes 31 seconds W., NAD 27:

- A1—0 to 16 inches (0 to 41 cm); black (10YR 2/1) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many roots; slightly acid; gradual smooth boundary.
- A2—16 to 20 inches (41 to 51 cm); very dark brown (10YR 2/2) and very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many roots; strongly acid; clear smooth boundary.
- E—20 to 31 inches (51 to 79 cm); dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) silt loam; weak medium platy structure parting to weak fine granular; friable; common roots; few fine distinct dark yellowish brown (10YR 4/4) masses of iron in the matrix; common black (10YR 2/1) nodules and concretions of iron and manganese oxides throughout the matrix; strongly acid; clear smooth boundary.
- Btg1—31 to 35 inches (79 to 89 cm); dark gray (5Y 4/1) silty clay loam; moderate fine subangular blocky structure; friable; few roots; few dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/4) masses of iron in the matrix; common prominent black (10YR 2/1) nodules and concretions of iron and manganese oxides throughout the matrix; strongly acid; gradual smooth boundary.
- Btg2—35 to 41 inches (89 to 104 cm); gray (10YR 5/1) silty clay loam; weak medium prismatic structure parting to moderate strong fine and medium angular blocky; firm; few roots; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) and few fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; common black (10YR 2/1) nodules and concretions of iron and manganese oxides throughout the matrix; moderately acid; gradual smooth boundary.
- Btg3—41 to 49 inches (104 to 124 cm); gray (10YR 5/1) silty clay loam; weak medium and coarse prismatic structure parting to strong medium angular blocky; firm; few roots; common faint dark gray (10YR 4/1) and very dark gray (10YR 3/1) clay films on faces of peds; common fine prominent brown (7.5YR 4/4) and yellowish brown (10YR 5/6) masses of iron in the matrix; common black (10YR 2/1) nodules and concretions of iron and manganese oxides throughout the matrix; moderately acid; clear smooth boundary.
- Btg4—49 to 55 inches (124 to 140 cm); gray (10YR 5/1) and light brownish gray (10YR 6/2) silty clay loam; weak medium and coarse angular blocky structure; firm; few roots; common faint dark gray (10YR 4/1) clay films on faces of peds; many fine prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron in the matrix; common black (10YR 2/1) nodules and concretions of iron and manganese oxides throughout the matrix; very dark gray (10YR 3/1) krotovina crossing the horizon; moderately acid; gradual smooth boundary.
- Cg—55 to 60 inches (140 to 152 cm); gray (10YR 5/1), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2) silt loam; massive; friable; few distinct dark brown (7.5YR 3/2) masses of iron and manganese oxide in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 15 to 24 inches (38 to 61 cm)

*Thickness of the solum:* More than 42 inches (107 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E or Eg horizon:*

Hue—10YR  
 Value—4 or 5  
 Chroma—1 or 2  
 Texture—silt loam  
 Thickness—7 to 12 inches

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 or 2  
 Texture—silty clay loam or silt loam

**272A—Edgington silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

***Map Unit Composition***

Edgington and similar soils: 90 percent

Dissimilar soils: 10 percent

***Minor Components****Similar soils:*

- Soils that have silty overwash
- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The well drained Seaton soils on toeslopes

***Properties and Qualities of the Edgington Soil***

*Parent material:* Silty loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.5 to 6.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
 January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric



## ***Edinburg Series***

*Taxonomic classification:* Fine, smectitic, mesic Vertic Argiaquolls

### **Typical Pedon**

Edinburg silty clay loam, 0 to 2 percent slopes, at an elevation of 615 feet; 1,200 feet south and 276 feet east of the center of sec. 22, T. 14 N., R. 6 W.; Sangamon County, Illinois; USGS Chatham, Illinois, topographic quadrangle; lat. 39 degrees 38 minutes 37 seconds N. and long. 89 degrees 45 minutes 00 seconds W.; UTM Zone 16, 264020E 4391823N, NAD 83:

- Ap—0 to 8 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium granular structure; friable; common fine and very fine roots; neutral; abrupt smooth boundary.
- A—8 to 10 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; dominantly moderate medium granular structure; some moderate very fine subangular blocky structure; firm; common fine and very fine roots; neutral; clear smooth boundary.
- BE—10 to 16 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak and moderate fine subangular blocky structure; firm; common very fine and few fine roots; few fine faint very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2) iron depletions; few fine distinct olive brown (2.5Y 4/4) masses of iron and manganese accumulation; few distinct light brownish gray (10YR 6/2) clay depletions on faces of peds; few fine yellowish brown (10YR 5/8) iron concretions; neutral; clear smooth boundary.
- Btg1—16 to 20 inches; dark gray (10YR 4/1) silty clay loam; moderate fine angular blocky structure; firm; few very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine distinct olive brown (2.5Y 4/4) masses of iron and manganese accumulation; few fine iron and manganese concretions; neutral; gradual smooth boundary.
- Btg2—20 to 26 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine distinct olive brown (2.5Y 4/4) masses of iron and manganese accumulation; common fine iron and manganese concretions; slightly acid; gradual smooth boundary.
- Btg3—26 to 34 inches; dark gray (10YR 4/1) silty clay loam; moderate medium prismatic structure parting to moderate coarse angular blocky; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films and few faint very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation; few fine iron and manganese concretions; neutral; gradual smooth boundary.
- Btg4—34 to 41 inches; olive gray (5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate coarse angular blocky; firm; few very fine roots; few distinct dark gray (10YR 4/1) clay films and very dark gray (10YR 3/1) organo-clay films on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation; few fine iron and manganese concretions; neutral; gradual smooth boundary.
- BCg—41 to 55 inches; olive gray (5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; friable; few faint dark gray (10YR 4/1) clay films and very dark gray (10YR 3/1) organo-clay films on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation; few fine iron and manganese concretions; neutral; gradual smooth boundary.

C—55 to 60 inches; mottled yellowish brown (10YR 5/6) and light olive gray (5Y 6/2) silt loam; massive; friable; dark gray (10YR 4/1) clay films in root channels; neutral.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to the base of the diagnostic horizon:* 40 to 65 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*BE, BEg, or Eg horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 or 2

Texture—silt loam or silty clay loam

## **249A—Edinburg silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Depressions on ground moraines

### ***Map Unit Composition***

Edinburg and similar soils: 97 percent

Dissimilar soils: 3 percent

### ***Minor Components***

*Similar soils:*

- Soils that have less clay and more silt in the surface layer
- Soils that have a thinner surface layer

*Dissimilar soils:*

- The somewhat poorly drained Muscatune soils in the slightly higher positions

### ***Properties and Qualities of the Edinburg Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 6.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Elco Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

### **Typical Pedon**

Elco silt loam, 10 to 18 percent slopes, eroded; 1,900 feet west and 2,000 feet south of the northeast corner of sec. 20, T. 8 N., R. 2 W.; USGS Roseville topographic quadrangle; lat. 40 degrees 40 minutes 11 seconds N. and long. 90 degrees 38 minutes 38 seconds W., NAD 27:

- A—0 to 2 inches (0 to 5 cm); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many roots; neutral; clear smooth boundary.
- E—2 to 9 inches (5 to 23 cm); brown (10YR 5/3) and dark grayish brown (10YR 4/2) silt loam; moderate thin platy structure; very friable; many roots; common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; neutral; abrupt smooth boundary.
- Bt1—9 to 18 inches (23 to 46 cm); yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; many roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct very pale brown (10YR 8/3) silt coatings on faces of peds; dark grayish brown (10YR 4/2) krotovina; moderately acid; clear smooth boundary.
- Bt2—18 to 26 inches (46 to 66 cm); yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; friable; many roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct very pale brown (10YR 8/3) silt coatings on faces of peds; common prominent black (5YR 2.5/1) stains and concretions of manganese; strongly acid; clear smooth boundary.
- 2Bt3—26 to 32 inches (66 to 81 cm); light yellowish brown (10YR 6/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few roots; common faint brown (10YR 5/3) clay films on faces of peds; common distinct very pale brown (10YR 8/3) silt coatings on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron oxide in the matrix; common prominent black (5YR 2.5/1) stains and concentrations of manganese; strongly acid; clear smooth boundary.
- 2Bt4—32 to 45 inches (81 to 114 cm); brown (10YR 5/3) clay; strong medium and coarse prismatic structure parting to subangular blocky; firm; few roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of iron oxide in the matrix; many

prominent black (5YR 2.5/1) stains and concentrations of manganese; strongly acid; clear smooth boundary.

2Btg—45 to 60 inches (114 to 152 cm); grayish brown (2.5YR 5/2) clay; moderate medium prismatic structure; firm; few roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/6) masses of iron oxide in the matrix; many prominent black (5YR 2.5/1) stains and concentrations of manganese; moderately acid.

### Range in Characteristics

*Thickness of the loess:* 20 to 40 inches (51 to 102 cm)

*Thickness of the solum:* More than 48 inches (122 cm)

*Ap or A horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 or 2

Texture—silt loam or silty clay loam

Reaction—moderately acid to neutral

*E horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam or silty clay loam

Reaction—moderately acid to neutral

*Bt horizon:*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

Reaction—strongly acid to slightly alkaline

*2Bt or 2Btg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—loam, clay loam, silty clay loam, or silt loam

Reaction—strongly acid to slightly alkaline

*3Btg or 3Bt horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—loam, clay loam, silty clay loam, silty clay, or clay

Reaction—strongly acid to slightly alkaline

## 119E2—Elco loam, 18 to 25 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Map Unit Composition

Elco and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have 40 to 60 inches of loess over till
- Soils that have less than 20 inches of loess over till
- Soils that have more clay and less silt in the surface layer
- Soils that have slopes of 10 to 18 percent

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on nose slopes and in the more eroded areas

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **724D2—Rozetta-Elco silt loams, 10 to 18 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Rozetta and similar soils: 55 percent

Elco and similar soils: 35 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have 40 to 60 inches of loess over till
- Soils that have more clay and less silt in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on the lower backslopes

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Rozetta—3e; Elco—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Rozetta—not hydric; Elco—not hydric

## **957D2—Elco-Atlas silt loams, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Elco and similar soils: 50 percent

Atlas and similar soils: 40 percent

Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have 40 to 60 inches of loess over the till
- Soils that have more sand and less silt in the surface layer
- Soils that have more clay and less silt in the surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Orion soils in drainageways

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Atlas Soil**

*Parent material:* Paleosol that formed in till

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January  
through May

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Elco—3e; Atlas—4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Elco—not hydric; Atlas—not hydric



## 957D3—Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Elco and similar soils: 45 percent

Atlas and similar soils: 40 percent

Dissimilar soils: 15 percent

### **Minor Components**

*Similar soils:*

- Soils that have more silt and less clay in the surface layer
- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Orion soils in drainageways

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### **Properties and Qualities of the Atlas Soil**

*Parent material:* Paleosol that formed in till

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 7.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January  
through May

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Elco—4e; Atlas—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Elco—not hydric; Atlas—not hydric

## **Fayette Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Fayette silt loam, 10 to 18 percent slopes, eroded; 2,100 feet north and 1,700 feet west of the southeast corner of sec. 31, T. 12 N., R. 3 W.; Warren County, Illinois; USGS Rozetta topographic quadrangle; lat. 40 degrees 59 minutes 13 seconds N. and long. 90 degrees 46 minutes 18 seconds W., NAD 27:

- Ap—0 to 5 inches (0 to 13 cm); mixed dark grayish brown (10YR 4/2) and yellowish brown (10YR 5/4) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.
- EB—5 to 9 inches (13 to 23 cm); mixed brown (10YR 5/3) and yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to moderate fine subangular blocky; friable; common fine roots between peds; few faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt1—9 to 13 inches (23 to 33 cm); dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds; common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—13 to 27 inches (33 to 69 cm); yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; gradual smooth boundary.
- Bt3—27 to 38 inches (69 to 97 cm); yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese on faces of peds; moderately acid; gradual wavy boundary.
- BC—38 to 55 inches (97 to 140 cm); yellowish brown (10YR 5/4) silt loam; moderate medium and coarse subangular blocky structure; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese on faces of peds; moderately acid; clear wavy boundary.
- C—55 to 60 inches (140 to 152 cm); yellowish brown (10YR 5/4) silt loam; massive; friable; few distinct dark brown (7.5YR 3/2) concretions of iron and manganese oxide throughout the matrix; moderately acid.

### **Range in Characteristics**

*Thickness of the solum:* 36 to 70 inches (91 to 178 cm )  
*Depth to free carbonates:* More than 40 inches (102 cm)

*Ap or A horizon:*

Hue—10YR  
 Value—2 to 4  
 Chroma—1 to 3  
 Texture—silt loam

*E horizon (where present):*

Value—3 to 5  
 Chroma—1 to 4  
 Texture—silt loam

*Bt horizon:*

Hue—10YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—silty clay loam or silt loam

*BC and C horizon:*

Hue—10YR  
 Value—4 or 5  
 Chroma—4 to 6  
 Texture—silt loam or silty clay loam

**280B—Fayette silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits and shoulders

***Map Unit Composition***

Fayette and similar soils: 97 percent

Dissimilar soils: 3 percent

***Minor Components****Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have a darker surface layer
- Soils that have a thinner surface layer
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Atterberry and Stronghurst soils on summits

***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **280C2—Fayette silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 95 percent  
 Dissimilar soils: 5 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have a darker surface layer
- Soils that have a thicker surface layer
- Soils that have less clay in the subsoil

#### *Dissimilar soils:*

- The somewhat poorly drained Atterberry and Stronghurst soils on summits

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **280D2—Fayette silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Loess hills and ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- Soils that have loamy till or sandy layers within a depth of 60 inches
- The somewhat poorly drained Orion soils in drainageways

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280D3—Fayette silty clay loam, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Loess hills and ground moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have less clay in the surface layer

*Dissimilar soils:*

- Soils that have loamy till or sandy layers within a depth of 60 inches
- The somewhat poorly drained Orion soils in drainageways

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **936D2—Fayette-Hickory silt loams, 10 to 18 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Fayette and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Fayette—3e; Hickory—3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

## **936D3—Fayette-Hickory complex, 18 to 35 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Fayette and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Minor Components***

#### ***Similar soils:***

- Soils that have 40 to 60 inches of loess over the till

#### ***Dissimilar soils:***

- The somewhat poorly drained Lawson and Orion soils in drainageways



### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Fayette—4e; Hickory—4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

## **936F—Fayette-Hickory silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Fayette and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

***Properties and Qualities of the Fayette Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 11.6 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* Moderate*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Properties and Qualities of the Hickory Soil****Parent material:* Till*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 10.4 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Fayette—6e; Hickory—6e*Prime farmland category:* Not prime farmland*Hydric soil status:* Fayette—not hydric; Hickory—not hydric**936G—Fayette-Hickory silt loams, 35 to 60 percent slopes*****Setting****Landform:* Ground moraines*Position on the landform:* Backslopes***Map Unit Composition***

Fayette and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

***Minor Components****Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

***Properties and Qualities of the Fayette Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 11.6 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* Moderate*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Properties and Qualities of the Hickory Soil****Parent material:* Till*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 10.4 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Fayette—7e; Hickory—7e*Prime farmland category:* Not prime farmland*Hydric soil status:* Fayette—not hydric; Hickory—not hydric**3646L—Fluvaquents, 0 to 2 percent slopes, frequently flooded, long duration*****Setting****Landform:* Flood plains***Map Unit Composition***

Fluvaquents and similar soils: 95 percent

Dissimilar soils: 5 percent

***Minor Components****Similar soils:*

- Soils that have more sand
- Soils that have more clay

*Dissimilar soils:*

- Somewhat poorly drained soils

***Properties and Qualities of the Fluvaquents***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, all year

*Depth and months of the deepest ponding:* 0.5 foot, all year

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 5w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

***Greenbush Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

***Typical Pedon***

Greenbush silt loam, 2 to 5 percent slopes, at an elevation of 700 feet; 1,500 feet west and 1,500 feet north of the southeast corner of sec. 18, T. 8 N., R. 1 W.; Warren County, Illinois; USGS Greenbush topographic quadrangle; lat. 40 degrees 40 minutes 40 seconds N. and long. 90 degrees 32 minutes 45 seconds W., NAD 27:

Ap—0 to 6 inches (0 to 15 cm); very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

E—6 to 10 inches (15 to 25 cm); dark grayish brown (10YR 4/2) silt loam; weak thin platy structure; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; abrupt smooth boundary.

BE—10 to 17 inches (25 to 43 cm); brown (10YR 4/3) silt loam; moderate medium platy structure parting to weak fine subangular blocky; friable; few distinct very dark gray (10YR 3/1) organic coatings and common distinct gray (10YR 6/1) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—17 to 29 inches (43 to 74 cm); yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct gray (10YR 6/1) (dry) silt coatings on faces of peds; strongly acid; gradual smooth boundary.

Bt2—29 to 38 inches (74 to 97 cm); brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint

brown (10YR 4/3) clay films on faces of peds; many faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron and common medium prominent light olive gray (5Y 6/1) iron depletions in the matrix; common prominent black (7.5YR 2.5/1) manganese oxide stains; strongly acid; gradual wavy boundary.

Bt3—38 to 53 inches (97 to 135 cm); brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron and common medium prominent light olive gray (5Y 6/1) iron depletions in the matrix; common prominent black (7.5YR 2.5/1) manganese oxide stains; strongly acid; gradual wavy boundary.

Bc—53 to 75 inches (135 to 191 cm); brown (10YR 5/3) and light olive gray (5Y 6/2) silt loam; weak medium and coarse prismatic structure parting to weak fine and medium angular blocky; friable; few faint brown (10YR 4/3) clay films on faces of peds; few faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron in the matrix; common prominent black (7.5YR 2.5/1) manganese oxide stains; moderately acid; gradual wavy boundary.

C—75 to 100 inches (191 to 254 cm); yellowish brown (10YR 5/4) and light olive gray (2.5Y 6/2) silt loam; massive; friable; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many prominent black (7.5YR 2.5/1) manganese oxide stains; moderately acid.

#### Range in Characteristics

*Depth to carbonates:* More than 60 inches (152 cm)

*Depth to the base of the argillic horizon:* 36 to 70 inches (91 to 178 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*E horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam

*C horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

### 675A—Greenbush silt loam, 0 to 2 percent slopes

#### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### **Map Unit Composition**

Greenbush and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a thicker dark surface layer
- Soils that have a lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have less clay in the subsoil

#### *Dissimilar soils:*

- The poorly drained Sable soils in depressions

### **Properties and Qualities of the Greenbush Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,

February through April

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **675B—Greenbush silt loam, 2 to 5 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders and summits

### **Map Unit Composition**

Greenbush and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a thicker dark surface layer
- Soils that have a lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet

- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and high for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**675C2—Greenbush silt loam, 5 to 10 percent slopes,  
eroded**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

***Map Unit Composition***

Greenbush and similar soils: 100 percent

***Minor Components***

*Similar soils:*

- Soils that have a thicker dark surface layer
- Soils that have a lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet

***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate



*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Hickory Series**

*Taxonomic classification:* Fine-loamy, mixed, active, mesic Typic Hapludalfs

### **Typical Pedon**

Hickory silt loam, 18 to 35 percent slopes (fig. 5); 320 feet south and 2,520 feet west of the northeast corner of sec. 18, T. 15 N., R. 6 E.; Bureau County, Illinois; USGS Neponset topographic quadrangle; lat. 41 degrees 19 minutes 59 seconds N. and long. 89 degrees 50 minutes 50 seconds W., NAD 27:

- A—0 to 4 inches (0 to 10 cm); dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common fine and medium roots throughout; 1 percent gravel; slightly acid; clear smooth boundary.
- Bt1—4 to 13 inches (10 to 33 cm); dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; common fine roots between pedes; common prominent brown (7.5YR 4/4) clay films on faces of pedes; 2 percent gravel; few fine rounded black (N 2.5/) concretions of iron and manganese oxide in the matrix; slightly acid; clear smooth boundary.
- Bt2—13 to 23 inches (33 to 58 cm); dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots between pedes; many distinct brown (7.5YR 4/4) clay films on faces of pedes; 5 percent gravel; few fine rounded black (N 2.5/) concretions of iron and manganese oxide in the matrix; neutral; clear smooth boundary.
- Bt3—23 to 31 inches (58 to 79 cm); dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few very fine and fine roots between pedes; many distinct brown (7.5YR 4/4) clay films on faces of pedes; 3 percent gravel; few fine rounded black (N 2.5/) concretions of iron and manganese oxide in the matrix; neutral; gradual wavy boundary.
- Bt4—31 to 40 inches (79 to 102 cm); dark yellowish brown (10YR 4/4) clay loam; weak medium and coarse subangular blocky structure; firm; few very fine and fine roots between pedes; common distinct brown (7.5YR 4/4) clay films on faces of pedes; few fine rounded black (N 2.5/) concretions of iron and manganese oxide in the matrix; 5 percent gravel; neutral; clear smooth boundary.
- BC—40 to 54 inches (102 to 137 cm); brown (7.5YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few distinct dark reddish brown (5YR 3/3) clay films on faces of pedes; few fine rounded black (N 2.5/) concretions of iron and manganese oxide in the matrix; 5 percent gravel; slightly acid; clear smooth boundary.
- C—54 to 60 inches (137 to 152 cm); yellowish brown (10YR 5/4) clay loam; massive; firm; common distinct brown (7.5YR 4/4) clay films on rocks and along pores; few



Figure 5.—Profile of a Hickory soil. These soils formed in till under native hardwood forests.

medium distinct yellowish brown (10YR 5/6) masses of iron in the matrix; 4 percent gravel; slightly effervescent; moderately alkaline.

#### Range in Characteristics

*Thickness of the loess:* Less than 20 inches (51 cm)

*Depth to the argillic horizon:* More than 40 inches (102 cm)

*Depth to carbonates:* More than 40 inches (102 cm)

*Thickness of the solum:* Less than 80 inches (203 cm)

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 or 3

Texture—silt loam or loam

*E horizon (where present):*

Value—4 to 6

Chroma—2 to 4  
Texture—silt loam or loam

*Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Chroma—3 to 6  
Texture—clay loam, silty clay loam, loam, or gravelly clay loam

*CB or C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—5 to 7  
Chroma—1 to 8  
Texture—loam or clay loam; sandy loam or the gravelly analogs in some pedons

## **8D2—Hickory silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have more clay or less sand in the subsoil
- Soils that have a darker surface layer
- Soils that have a thinner surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on shoulders and backslopes

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 8D3—Hickory clay loam, 10 to 18 percent slopes, severely eroded

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### *Map Unit Composition*

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Minor Components*

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have more clay or less sand in the subsoil
- Soils that have a darker surface layer
- Soils that have a thicker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on shoulders and backslopes

### *Properties and Qualities of the Hickory Soil*

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 8F—Hickory silt loam, 18 to 35 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### *Map Unit Composition*

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have more clay or less sand in the subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on shoulders and backslopes
- The somewhat poorly drained Orion soils in drainageways
- The well drained Dunbarton soils on backslopes

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **8F3—Hickory clay loam, 18 to 35 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have more clay or less sand in the subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on shoulders and backslopes
- The somewhat poorly drained Orion soils in drainageways
- The shallow Dunbarton soils on the lower backslopes



### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **8G—Hickory silt loam, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hickory and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Minor Components***

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have more clay or less sand in the subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on shoulders and backslopes
- The somewhat poorly drained Orion soils in drainageways
- The shallow Dunbarton soils on the lower backslopes

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

Surface runoff class: High  
 Susceptibility to water erosion: High  
 Susceptibility to wind erosion: Low

### ***Interpretive Groups***

Land capability classification: 7e  
 Prime farmland category: Not prime farmland  
 Hydric soil status: Not hydric

## **936D2—Fayette-Hickory silt loams, 10 to 18 percent slopes, eroded**

### ***Setting***

Landform: Ground moraines  
 Position on the landform: Backslopes

### ***Map Unit Composition***

Fayette and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

#### *Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

### ***Properties and Qualities of the Fayette Soil***

Parent material: Loess  
 Drainage class: Well drained  
 Slowest permeability within a depth of 40 inches: Moderate  
 Permeability below a depth of 60 inches: Moderate  
 Depth to restrictive feature: More than 80 inches  
 Available water capacity: About 11.4 inches to a depth of 60 inches  
 Content of organic matter in the surface layer: 1.0 to 2.0 percent  
 Shrink-swell potential: Moderate  
 Accelerated erosion: The surface layer has been thinned by erosion.  
 Potential for frost action: High  
 Hazard of corrosion: Moderate for steel and concrete  
 Surface runoff class: Medium  
 Susceptibility to water erosion: High  
 Susceptibility to wind erosion: Low

### ***Properties and Qualities of the Hickory Soil***

Parent material: Till  
 Drainage class: Well drained  
 Slowest permeability within a depth of 40 inches: Moderate  
 Permeability below a depth of 60 inches: Moderate  
 Depth to restrictive feature: More than 80 inches  
 Available water capacity: About 10.5 inches to a depth of 60 inches  
 Content of organic matter in the surface layer: 1.0 to 2.0 percent  
 Shrink-swell potential: Moderate



*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Fayette—3e; Hickory—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

## **936D3—Fayette-Hickory complex, 18 to 35 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Fayette and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

*Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.0 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Fayette—4e; Hickory—4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

### **936F—Fayette-Hickory silt loams, 18 to 35 percent slopes**

#### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Fayette and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

#### ***Minor Components***

##### *Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

##### *Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

#### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Fayette—6e; Hickory—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

## **936G—Fayette-Hickory silt loams, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Fayette and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have 40 to 60 inches of loess over the till

#### *Dissimilar soils:*

- The somewhat poorly drained Lawson and Orion soils in drainageways

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Fayette—7e; Hickory—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Hickory—not hydric

### **937D2—Seaton-Hickory silt loams, 10 to 18 percent slopes, eroded**

#### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Seaton and similar soils: 50 percent  
 Hickory and similar soils: 45 percent  
 Dissimilar soils: 5 percent

#### ***Minor Components***

##### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

##### *Dissimilar soils:*

- Soils that are calcareous throughout

#### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 2.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—3e; Hickory—3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## **937D3—Seaton-Hickory complex, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 2.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Loamy till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 9.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.0 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—4e; Hickory—4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## **937F—Seaton-Hickory silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Ground moraines

### ***Map Unit Composition***

Seaton and similar soils: 45 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 15 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—6e; Hickory—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## **937G—Seaton-Hickory silt loams, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 45 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 15 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate



*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—7e; Hickory—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## ***Joy Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Hapludolls

### **Typical Pedon**

Joy silt loam, 0 to 2 percent slopes; 1,900 feet east and 2,600 feet north of the southwest corner of sec. 26, T. 18 N., R. 3 E.; Henry County, Illinois; USGS Spring Hill topographic quadrangle; lat. 41 degrees 31 minutes 01 second N. and long. 90 degrees 06 minutes 59 seconds W., NAD 27:

Ap—0 to 5 inches (0 to 13 cm); black (10YR 2/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.

A1—5 to 13 inches (13 to 33 cm); very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; slightly acid; clear smooth boundary.

A2—13 to 17 inches (33 to 43 cm); very dark grayish brown (10YR 3/2) silt loam; moderate fine subangular blocky structure parting to moderate medium granular; friable; neutral; clear smooth boundary.

Bt1—17 to 21 inches (43 to 53 cm); brown (10YR 4/3) silt loam; moderate medium and fine subangular blocky structure; friable; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—21 to 27 inches (53 to 69 cm); mixed grayish brown (10YR 5/2) and brown (10YR 5/3) silty clay loam; moderate medium and fine subangular blocky structure;

friable; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few prominent black (N 2.5/) coatings of iron and manganese oxide on faces of peds; common medium prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bt3—27 to 34 inches (69 to 86 cm); yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; common faint brown (10YR 5/3) clay films on faces of peds; few prominent black (N 2.5/) coatings of iron-manganese oxide on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bt4—34 to 49 inches (86 to 124 cm); mixed light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/6) silt loam; weak fine prismatic structure parting to weak fine and medium subangular blocky; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; few prominent black (N 2.5/) coatings of iron and manganese oxide on faces of peds; neutral; gradual smooth boundary.

Cg—49 to 60 inches (124 to 152 cm); light brownish gray (2.5Y 6/2) silt loam; massive; friable; common prominent black (N 2.5/) coatings of iron and manganese oxide along cleavage planes; many medium prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Depth to free carbonates:* More than 40 inches (102 cm)

*Thickness of the solum:* 36 to 60 inches (91 to 152 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bw, Bg, or Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 4

Texture—silt loam, very fine sandy loam, or loam

## 275A—Joy silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Joy and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a thicker surface layer and subsurface layer
- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

### **Properties and Qualities of the Joy Soil**

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Lawson Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

### **Typical Pedon**

Lawson silt loam, 0 to 2 percent slopes, occasionally flooded; 318 feet south and 1,040 feet east of the northwest corner of sec. 17, T. 17 N., R. 9 E.; Bureau County, Illinois; USGS Princeton North topographic quadrangle; lat. 41 degrees 27 minutes 54 seconds N. and long. 89 degrees 29 minutes 14 seconds W., NAD 27:

Ap—0 to 11 inches (0 to 28 cm); very dark grayish (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; weak medium granular structure; friable; few fine roots throughout; neutral; clear smooth boundary.

A1—11 to 19 inches (28 to 48 cm); black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; moderate fine granular structure; friable; few fine roots throughout; neutral; gradual smooth boundary.

A2—19 to 28 inches (48 to 71 cm); very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; few fine roots throughout; neutral; gradual smooth boundary.

C1—28 to 50 inches (71 to 127 cm); dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; few fine roots throughout; common

faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; very dark grayish brown (10YR 3/2) krotovina; few fine faint brown (10YR 4/3) and common fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral; gradual smooth boundary.

C2—50 to 60 inches (127 to 152 cm); grayish brown (2.5Y 5/2) silt loam; weak medium subangular blocky structure; friable; few fine roots; very dark grayish brown (10YR 3/2) krotovina; common fine faint dark grayish brown (10YR 4/2) iron depletions and common fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 24 to 36 inches (61 to 91 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*C horizon:*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 3

Texture—silt loam

## **3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Lawson and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a surface soil 10 to 24 inches thick
- Soils that have a buried horizon within a depth of 60 inches

*Dissimilar soils:*

- The poorly drained Otter and Sawmill soils on flood plains

### ***Properties and Qualities of the Lawson Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **3725A—Otter-Lawson silt loams, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Otter and similar soils: 65 percent

Lawson and similar soils: 30 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the surface layer and the subsoil
- Soils that have a buried horizon between depths of 40 and 60 inches
- Soils that have a surface layer 10 to 24 inches thick

*Dissimilar soils:*

- The well drained Dozaville soils on flood plains

### ***Properties and Qualities of the Otter Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Lawson Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Otter—3w; Lawson—3w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Otter—hydric; Lawson—not hydric

## **7451A—Lawson silt loam, 0 to 2 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Lawson and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a surface soil 10 to 24 inches thick
- Soils that have a buried horizon within a depth of 60 inches
- Soils that are subject to occasional flooding

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils on flood plains

### ***Properties and Qualities of the Lawson Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 7.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Rare, November through June

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Littleton Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Cumulic  
Hapludolls

### **Typical Pedon**

Littleton silt loam, 0 to 2 percent slopes; 200 feet north and 1,420 feet east of the southwest corner of sec. 16, T. 20 N., R. 4 E.; Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 42 minutes 52 seconds N. and long. 90 degrees 02 minutes 57 seconds W., NAD 27:

Ap—0 to 8 inches (0 to 20 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots throughout; slightly acid; clear smooth boundary.

A1—8 to 20 inches (20 to 51 cm); very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and very fine subangular blocky structure parting to moderate fine granular; friable; few fine roots throughout; few very thin strata of brown (10YR 5/3) silt loam; slightly acid; clear smooth boundary.

A2—20 to 36 inches (51 to 91 cm); black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and very fine subangular blocky structure; friable; few fine roots between peds; slightly acid; gradual smooth boundary.

BA—36 to 52 inches (91 to 132 cm); brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; friable; many faint grayish brown (10YR 5/2) coatings on faces of peds and in root channels; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bg—52 to 61 inches (132 to 155 cm); grayish brown (10YR 5/2) silty clay loam; strong medium prismatic structure; friable; many faint grayish brown (10YR 5/2) coatings on faces of peds; common medium prominent yellowish brown (10YR 5/6) iron masses in the matrix; few fine black (N 2.5/) iron and manganese oxide concretions; neutral; clear smooth boundary.

Cg—61 to 80 inches (155 to 203 cm); grayish brown (10YR 5/2) silt loam; massive; friable; common medium prominent yellowish brown (10YR 5/6) iron masses in the matrix; few faint black (N 2.5/) iron and manganese oxide concretions; neutral.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 24 to 36 inches (61 to 91 cm)

*Thickness of the solum:* 30 to 62 inches (76 to 157 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3



Chroma—1 to 3  
Texture—silt loam

*Bg horizon:*

Hue—10YR or 2.5Y  
Value—3 to 5  
Chroma—2 or 3  
Texture—silt loam or silty clay loam

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y  
Value—4 to 6  
Chroma—1 to 4  
Texture—silt loam; thin strata of silty clay loam in some pedons

## **81A—Littleton silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces and alluvial fans

*Position on the landform:* Summits and footslopes

### ***Map Unit Composition***

Littleton and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a thinner surface layer
- Soils that have a seasonal high water table within a depth of 4 feet

*Dissimilar soils:*

- The well drained Raddle soils on summits

### ***Properties and Qualities of the Littleton Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Mannon Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

### **Typical Pedon**

Mannon silt loam, 2 to 5 percent slopes, at an elevation of 670 feet; 1,400 feet east and 160 feet south of the northwest corner of sec. 27, T. 15 N., R. 5 W.; Mercer County, Illinois; USGS New Boston topographic quadrangle; lat. 41 degrees 16 minutes 30 seconds N. and long. 90 degrees 57 minutes 22 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.
- E—8 to 12 inches (20 to 30 cm); brown (10YR 4/3) silt loam; weak medium platy structure; friable; neutral; clear smooth boundary.
- Bt1—12 to 21 inches (30 to 53 cm); brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—21 to 36 inches (53 to 91 cm); brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
- Bt3—36 to 47 inches (91 to 119 cm); brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; common distinct yellowish brown (10YR 5/6) masses of iron throughout; common distinct light olive gray (5Y 6/2) iron depletions throughout; neutral; clear smooth boundary.
- BC—47 to 53 inches (119 to 135 cm); brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron throughout; common distinct light olive gray (5Y 6/2) iron depletions throughout; slightly acid; clear smooth boundary.
- C—53 to 60 inches (135 to 152 cm); brown (10YR 5/3) silt loam; massive; friable; many medium distinct yellowish brown (10YR 5/6) masses of iron oxide throughout; many medium distinct light olive gray (5Y 6/2) iron oxide depletions throughout; moderately acid.

### **Range in Characteristics**

*Depth to the base of the argillic horizon:* 45 to 60 inches (114 to 152 cm)

*Depth to carbonates:* More than 60 inches (152 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*E horizon (where present):*

Hue—10YR

Value—3 or 4

Chroma—2 or 3

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

*C horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—silt loam

**678A—Mannon silt loam, 0 to 2 percent slopes*****Setting****Landform:* Ground moraines*Position on the landform:* Summits***Map Unit Composition***

Mannon and similar soils: 90 percent

Dissimilar soils: 10 percent

***Minor Components****Similar soils:*

- Soils that have a thicker or lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

***Properties and Qualities of the Mannon Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.7 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* Low*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 1*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric**678B—Mannon silt loam, 2 to 5 percent slopes*****Setting****Landform:* Ground moraines*Position on the landform:* Shoulders

### **Map Unit Composition**

Mannon and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a thicker or lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of less than 2 percent

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### **Properties and Qualities of the Mannon Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Mt. Carroll Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

### **Typical Pedon**

Mt. Carroll silt loam, 2 to 5 percent slopes; 2,250 feet south and 720 feet east of the northwest corner of sec. 32, T. 22 N., R. 5 E.; Whiteside County, Illinois; USGS Morrison topographic quadrangle; lat. 41 degrees 51 minutes 09 seconds N. and long. 89 degrees 57 minutes 22 seconds W., NAD 27:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; common very fine and fine roots throughout; slightly acid; clear smooth boundary.

E—7 to 10 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium platy structure; friable; few fine roots throughout; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; slightly acid; clear smooth boundary.

- BE—10 to 17 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; few fine roots between peds; many faint dark brown (10YR 3/3) organic coatings on faces of peds; few faint very dark grayish brown (10YR 3/2) organic coatings in root channels; moderately acid; clear smooth boundary.
- Bt1—17 to 25 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels; many faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—25 to 39 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds; common faint brown (10YR 4/3) clay films on faces of peds; common prominent very dark grayish brown (10YR 3/2) wormcasts; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
- Bt3—39 to 55 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
- BC—55 to 62 inches; yellowish brown (10YR 5/4) silt loam; weak medium prismatic structure; friable; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine dark reddish brown (5YR 2.5/2) soft masses of iron and manganese oxide; moderately acid; gradual smooth boundary.
- C—62 to 80 inches; mixed yellowish brown (10YR 5/4) and pale brown (10YR 6/3) silt loam; massive; friable; common fine and medium black (5YR 2.5/1) soft masses of iron and manganese oxide; few fine distinct light brownish gray (10YR 6/2) iron depletions and few fine faint yellowish brown (10YR 5/6 and 5/8) iron masses in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the dark surface layer:* 6 to 9 inches

*Thickness of the solum:* 36 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—3

Chroma—1 to 3

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 5

Texture—silt loam

*C horizon:*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

## 268A—Mt. Carroll silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes and summits

### **Map Unit Composition**

Mt. Carroll and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a dark surface soil that is either more than 10 inches or less than 6 inches thick
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil

#### *Dissimilar soils:*

- The poorly drained Edgington soils in depressions

### **Properties and Qualities of the Mt. Carroll Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **268B—Mt. Carroll silt loam, 2 to 5 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes and summits

### **Map Unit Composition**

Mt. Carroll and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a dark surface soil that is either more than 10 inches or less than 6 inches thick
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on footslopes

***Properties and Qualities of the Mt. Carroll Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.7 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* Low*Ponding:* None*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* Low for steel and moderate for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 2e*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric***Muscature Series****Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Argiudolls***Typical Pedon***

Muscature silt loam (fig. 6), 0 to 2 percent slopes; 2,500 feet west and 2,240 feet north of the southeast corner of sec. 29, T. 9 N., R. 1 W.; Warren County, Illinois; USGS Greenbush topographic quadrangle; lat. 40 degrees 44 minutes 11 seconds N. and long. 90 degrees 31 minutes 46 seconds W., NAD 27:

Ap—0 to 7 inches (0 to 18 cm); black (10YR 2/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; abrupt smooth boundary.

A—7 to 13 inches (18 to 33 cm); very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; clear smooth boundary.

AB—13 to 20 inches (33 to 51 cm); mixed very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots throughout; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt1—20 to 28 inches (51 to 71 cm); brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots between peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common dark manganese stains; neutral; clear smooth boundary.





Figure 6.—Profile of Muscatune silt loam.

Bt2—28 to 38 inches (71 to 97 cm); brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) and few faint pale brown (10YR 6/3) iron masses in the matrix; common dark manganese stains; neutral; clear smooth boundary.

Btg—38 to 50 inches (97 to 127 cm); light brownish gray (2.5Y 6/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; common prominent grayish brown (10YR 5/2) clay films on faces of peds;

common fine prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix; common dark manganese stains; slightly acid; clear smooth boundary.

BCg—50 to 60 inches (127 to 152 cm); light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; common medium prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix; common dark manganese stains; slightly acid; clear smooth boundary.

Cg—60 to 80 inches (152 to 203 cm); light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix; few fine round very dark brown (10YR 2/2) soft masses of iron and manganese; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Thickness of the loess:* More than 60 inches (152 cm)

*Depth to free carbonates:* More than 40 inches (102 cm)

*Thickness of the solum:* 40 to 64 inches (102 to 163 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam

*C horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam or silty clay loam

## 51A—Muscatune silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Muscatune and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Edgington and Sable soils in depressions
- The well drained Osco soils on shoulders

### ***Properties and Qualities of the Muscatune Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **51B—Muscatune silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and summits

### ***Map Unit Composition***

Muscatune and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils on summits and toeslopes

### ***Properties and Qualities of the Muscatune Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **Niota Series**

*Taxonomic classification:* Fine, mixed, superactive, mesic Vertic Albaqualfs

### **Typical Pedon**

Niota silt loam, 0 to 2 percent slopes; 600 feet north and 1,320 feet east of the southwest corner of sec. 30, T. 19 N., R. 3 E.; Rock Island County, Illinois; USGS Hillsdale topographic quadrangle; lat. 41 degrees 36 minutes 01 second N. and long. 90 degrees 12 minutes 17 seconds W., NAD 27:

- A—0 to 7 inches (0 to 18 cm); black (10YR 2/1) silt loam, gray (10YR 5/1) dry; moderate very fine and fine granular structure; friable; many fine roots throughout; neutral; clear smooth boundary.
- E—7 to 14 inches (18 to 36 cm); mixed grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate thin platy structure parting to moderate fine granular; friable; common fine roots throughout; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine dark concretions of iron and manganese in the matrix; strongly acid; abrupt smooth boundary.
- 2Bt—14 to 24 inches (36 to 61 cm); reddish brown (5YR 4/4) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots between peds; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; very strongly acid; clear smooth boundary.
- 2Btg1—24 to 37 inches (61 to 94 cm); mixed gray (5Y 5/1) and light gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; common distinct dark gray (5Y 4/1) clay films on faces of peds; few fine dark concretions of iron and manganese in the matrix; few fine and medium prominent yellowish red (5YR 4/6) masses of iron in the matrix; very strongly acid; gradual smooth boundary.
- 3Btg2—37 to 53 inches (94 to 135); light gray (5Y 6/1) silt loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; common distinct reddish gray (5YR 5/2) clay films on faces of peds; many prominent black (N 2.5/) iron and manganese stains on faces of peds; many fine dark concretions of iron and manganese in the matrix; few fine and medium prominent yellowish red (5YR 4/6) masses of iron in the matrix; very strongly acid; clear smooth boundary.
- 3Cg—53 to 60 inches (135 to 152 cm); light gray (5Y 6/1) silt loam; massive; friable; many fine dark concretions of iron and manganese in the matrix; many fine and medium prominent yellowish red (5YR 4/6) masses of iron in the matrix; slightly acid.

### **Range in Characteristics**

*Thickness of the solum:* 40 to 60 inches (102 to 152 cm)

*Thickness of the loess:* Less than 20 inches (51 cm)

*Depth to lacustrine sediments:* 10 to 20 inches (25 to 51 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 3

*2Bt or 2Btg horizon:*

Hue—2.5YR to 5Y or N

Value—4 to 6

Chroma—0 to 4

Texture—silty clay, clay, or silty clay loam

*3Btg or 3BCg horizon (where present):*

Hue—7.5YR to 5Y or N

Value—4 to 6

Chroma—0 to 2

Texture—silt loam, silty clay loam, or loam

*3Cg horizon:*

Texture—silt loam; strata of loam, clay loam, sandy loam, silty clay loam, or loamy fine sand in some pedons

## **261A—Niota silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Depressions

### ***Map Unit Composition***

Niota and similar soils: 98 percent

Dissimilar soils: 2 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the surface layer
- Soils that have a gray subsoil

*Dissimilar soils:*

- The well drained Crescent and Raddle soils on terraces

### ***Properties and Qualities of the Niota Soil***

*Parent material:* Glaciolacustrine deposits

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High



*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and high for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Orion Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, nonacid, mesic Aquic  
Udifluvents

### **Typical Pedon**

Orion silt loam, 0 to 2 percent slopes, frequently flooded; 270 feet south and 1,000 feet east of the northwest corner of sec. 17, T. 22 N., R. 6 E.; Whiteside County, Illinois; USGS Milledgeville topographic quadrangle; 41 degrees 54 minutes 06 seconds N. and long. 89 degrees 50 minutes 13 seconds W., NAD 27:

A—0 to 5 inches (0 to 13 cm); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; massive; friable; many thin strata of brown (10YR 4/3) and very dark gray (10YR 3/1) silt loam; neutral; abrupt smooth boundary.

C1—5 to 15 inches (13 to 38 cm); dark grayish brown (10YR 4/2) silt loam; massive; friable; many thin strata of pale brown (10YR 6/3) and yellowish brown (10YR 5/4) silt loam; few fine distinct brown (7.5YR 4/4) masses of iron in the matrix; neutral; clear wavy boundary.

C2—15 to 29 inches (38 to 74 cm); dark grayish brown (10YR 4/2) silt loam; massive; friable; many thin strata of dark yellowish brown (10YR 4/4), yellowish brown (10YR 5/6), and pale brown (10YR 6/3) silt loam; few very dark gray (10YR 3/1) wormcasts; few fine distinct brown (7.5YR 4/4) masses of iron in the matrix; neutral; abrupt wavy boundary.

Ab1—29 to 39 inches (74 to 99 cm); black (N 2.5/) silt loam; weak thick platy structure parting to weak medium and fine subangular blocky; friable; neutral; clear smooth boundary.

Ab2—39 to 51 inches (99 to 130 cm); black (N 2.5/) silty clay loam; strong medium and fine angular blocky structure; friable; neutral; clear smooth boundary.

Ab3—51 to 60 inches (130 to 152 cm); very dark gray (10YR 3/1) silty clay loam; moderate medium and fine subangular blocky structure; friable; neutral.

### **Range in Characteristics**

*Depth to the dark buried soil:* 20 to 40 inches (51 to 102 cm)

*Thickness of the surface layer:* 5 to 10 inches (13 to 25 cm)

*Ap or A horizon:*

Hue—10YR

Value—3 to 6

Chroma—2 or 3

Texture—silt loam; stratified in some pedons

*C horizon:*

Hue—10YR  
 Value—3 to 5  
 Chroma—2 or 3  
 Texture—silt loam; stratified in some pedons

*Ab horizon:*

Hue—10YR or 2.5Y  
 Value—2 or 3  
 Chroma—1 or 2  
 Texture—silty clay loam or silt loam; stratified in some pedons

## **3415A—Orion silt loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Orion and similar soils: 95 percent  
 Dissimilar soils: 5 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more sand in the upper part
- Soils in which the buried soil is at a depth of more than 40 inches
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils on flood plains

### ***Properties and Qualities of the Orion Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric



## 802B—Orthents, loamy, undulating

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### *Map Unit Composition*

Orthents and similar soils: 85 percent

Dissimilar soils: 15 percent

### *Minor Components*

*Similar soils:*

- Soils that are dominantly silt loam or silty clay loam
- Soils that have a seasonal high water table within a depth of 60 inches

*Dissimilar soils:*

- Poorly drained soils on flood plains

### *Properties and Qualities of the Orthents*

*Parent material:* Mine spoil or earthy fill

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Osco Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls

*Taxadjunct features:* The Osco soils in map units 86B2, 86C2, and 86D2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

### **Typical Pedon**

Osco silt loam (fig. 7), 2 to 5 percent slopes, at an elevation of 858 feet; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; Carroll County, Illinois; USGS Lanark topographic quadrangle; lat. 42 degrees 03 minutes 15 seconds N. and long. 89 degrees 45 minutes 52 seconds W., NAD 27:



Figure 7.—Profile of Osco silt loam.

- Ap—0 to 10 inches (0 to 25 cm); very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.
- A—10 to 14 inches (25 to 36 cm); very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium and coarse granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

- BA—14 to 20 inches (36 to 51 cm); dark yellowish brown (10YR 3/4) and dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt1—20 to 26 inches (51 to 66 cm); brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; few distinct gray (10YR 6/1) (dry) silt coatings and common faint dark brown (10YR 3/3) clay films on faces of peds; strongly acid; clear smooth boundary.
- Bt2—26 to 37 inches (66 to 94 cm); dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct light brownish gray (10YR 6/2) (dry) silt coatings and many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine faint brown (10YR 5/3) and common medium prominent strong brown (7.5YR 5/8) masses of iron in the matrix; many prominent very dark gray (N 3/) and distinct dark brown (7.5YR 3/2) manganese oxide concretions; strongly acid; clear smooth boundary.
- Bt3—37 to 45 inches (94 to 114 cm); light yellowish brown (10YR 6/4) silty clay loam; moderate coarse subangular blocky structure; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few medium prominent strong brown (7.5YR 5/8) masses of iron in the matrix; strongly acid; gradual smooth boundary.
- BC—45 to 55 inches (114 to 140 cm); yellowish brown (10YR 5/4) and dark brown (10YR 4/3) silty clay loam; weak coarse angular blocky structure; friable; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; gradual smooth boundary.
- C—55 to 60 inches (140 to 152 cm); yellowish brown (10YR 5/4) and brown (10YR 4/3) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of iron and common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches (25 to 46 cm)

*Thickness of the solum:* 40 to more than 60 inches (102 to more than 152 cm)

*Depth to free carbonates:* More than 48 inches (122 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

*BC, C, or Cg horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silty clay loam

**86A—Osco silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

***Map Unit Composition***

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

***Minor Components***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

***Properties and Qualities of the Osco Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**86B—Osco silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits and shoulders

***Map Unit Composition***

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent



### **Minor Components**

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

### **Properties and Qualities of the Osco Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches (fig. 8)

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low



**Figure 8.—Ridge tillage in an area of Osco soils. If the furrows are created on the contour, this practice conserves soil moisture and helps to control erosion.**

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **86B2—Osco silt loam, 2 to 5 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and summits

### ***Map Unit Composition***

Osco and similar soils: 88 percent  
 Dissimilar soils: 12 percent

### ***Minor Components***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet

*Dissimilar soils:*

- The poorly drained Sable soils in depressions

### ***Properties and Qualities of the Osco Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
 February through April  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **86C2—Osco silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Oscos and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The poorly drained Sable soils in drainageways

### **Properties and Qualities of the Osco Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **86D2—Osco silt loam, 10 to 18 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Oscos and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Radford soils on flood plains

### **Properties and Qualities of the Osco Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate



*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Otter Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

### **Typical Pedon**

Otter silt loam, 0 to 2 percent slopes; 1,960 feet west and 2,540 feet south of the northeast corner of sec. 35, T. 22 N., R. 5 E.; Whiteside County, Illinois; USGS Morrison topographic quadrangle; lat. 41 degrees 51 minutes 06 seconds N. and long. 89 degrees 53 minutes 18 seconds W., NAD 27:

Ap—0 to 10 inches (0 to 25 cm); black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

A1—10 to 16 inches (25 to 41 cm); black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; slightly acid; clear smooth boundary.

A2—16 to 21 inches (41 to 53 cm); black (N 2.5/) silt loam, very dark gray (10YR 3/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; few fine prominent grayish brown (2.5Y 5/2) iron depletions and few fine prominent yellowish brown (10YR 5/8) iron masses in the matrix; few fine prominent dark reddish brown (5YR 2.5/2) coatings of iron and manganese oxide on faces of peds; slightly acid; clear smooth boundary.

A3—21 to 35 inches (53 to 89 cm); black (N 2.5/) mucky silt loam, black (N 2.5/) dry; weak medium subangular blocky structure; friable; few fine prominent strong brown (7.5YR 4/6) iron masses in the matrix; few fine prominent dark reddish brown (5YR 2.5/2) coatings of iron and manganese oxide on faces of peds; slightly acid; clear smooth boundary.

AB—35 to 43 inches (89 to 109 cm); very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak coarse subangular blocky structure; friable; few fine prominent dark reddish brown (5YR 2.5/2) coatings of iron and manganese oxide on faces of peds; common medium faint dark gray (10YR 4/1) iron depletions and few fine prominent brown (7.5YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.

Bg—43 to 50 inches (109 to 127 cm); grayish brown (2.5Y 5/2) silt loam; weak coarse subangular blocky structure; friable; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels; common medium prominent yellowish brown (10YR 5/6) and few medium prominent brown (7.5YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.

Cg—50 to 60 inches (127 to 152 cm); light brownish gray (2.5Y 6/2) silt loam; massive; friable; common fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 50 inches (61 to 127 cm)

*Thickness of the solum:* 24 to 50 inches (61 to 127 cm)

*Ap, A, or AB horizon:*

Hue—7.5YR, 10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silt loam

*Bg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or N

Value—2 to 6

Chroma—0 to 4

Texture—silt loam, loam, sandy loam, or silty clay loam

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 4

Texture—silt loam or loam; strata of silty clay loam or sandy loam in some pedons

## 3725A—Otter-Lawson silt loams, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Otter and similar soils: 65 percent

Lawson and similar soils: 30 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have more clay in the surface layer and the subsoil
- Soils that have a buried horizon between depths of 40 and 60 inches
- Soils that have a surface layer 10 to 24 inches thick

*Dissimilar soils:*

- The well drained Dozaville soils on flood plains

### Properties and Qualities of the Otter Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Lawson Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Otter—3w; Lawson—3w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Otter—hydric; Lawson—not hydric

## **864—Pits, quarries**

This map unit consists of excavated areas of limestone bedrock from which material has been removed. The remaining floors are nearly level, and the sidewalls are very steep or nearly vertical.

## ***Port Byron Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludolls

*Taxadjunct features:* The Port Byron soil in map unit 277C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

### **Typical Pedon**

Port Byron silt loam, 2 to 5 percent slopes; 2,620 feet south and 400 feet east of the northwest corner of sec. 9, T. 20 N., R. 3 E.; Whiteside County, Illinois; USGS Erie NW topographic quadrangle; lat. 41 degrees 44 minutes 13 seconds N. and long. 90 degrees 10 minutes 08 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak medium granular structure; friable; many very fine and fine roots throughout; moderately acid; abrupt smooth boundary.
- A—8 to 13 inches (20 to 33 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium and fine subangular blocky structure; friable; common very fine and fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- BA—13 to 20 inches (33 to 51 cm); brown (10YR 4/3) silt loam; moderate medium and fine subangular blocky structure; friable; common fine roots between peds; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few faint very dark grayish brown (10YR 3/2) wormcasts; slightly acid; clear smooth boundary.
- Bw1—20 to 31 inches (51 to 79 cm); dark yellowish brown (10YR 4/4) silt loam; moderate medium and fine subangular blocky structure; friable; common fine and medium roots between peds; common faint brown (10YR 4/3) clay films on faces of peds; few faint dark brown (10YR 3/3) wormcasts; moderately acid; clear smooth boundary.
- Bw2—31 to 40 inches (79 to 102 cm); yellowish brown (10YR 5/4) silt loam; moderate coarse and medium subangular blocky structure; friable; few fine roots between peds; common faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bw3—40 to 52 inches (102 to 132 cm); yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few fine roots between peds; few faint dark yellowish brown (10YR 4/4) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine faint pale brown (10YR 6/3) masses of iron in the matrix; slightly acid; clear smooth boundary.
- BC—52 to 60 inches (132 to 152 cm); yellowish brown (10YR 5/4) silt loam; weak medium and coarse prismatic structure; firm; few fine roots between peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron in the matrix; few fine dark brown (7.5YR 3/2) coatings of iron and manganese oxide on faces of peds; slightly acid; clear smooth boundary.
- C1—60 to 66 inches (152 to 168 cm); yellowish brown (10YR 5/4) silt; massive; friable; common fine distinct yellowish brown (10YR 5/6 and 5/8) masses of iron in the matrix; few fine and medium irregular brown (7.5YR 4/4) and few fine rounded black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; common medium black (5Y 2.5/1) irregular masses of iron and manganese oxide in root channels and pores in the lower 2 inches; neutral; gradual smooth boundary.
- C2—66 to 77 inches (168 to 196 cm); 50 percent yellowish brown (10YR 5/4) and 50 percent pale brown (10YR 6/3) silt loam; massive; friable; common fine and medium distinct yellowish brown (10YR 5/6) and few medium distinct strong brown (7.5YR 5/6) masses of iron in the matrix; light brownish gray (10YR 6/2) iron depletions in the matrix; few fine and medium irregular black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; neutral; gradual smooth boundary.
- C3—77 to 89 inches (196 to 226 cm); 70 percent yellowish brown (10YR 5/4) and 30 percent pale brown (10YR 6/3) silt; massive; friable; common fine distinct yellowish brown (10YR 5/6 and 5/8) masses of iron in the matrix; few fine distinct light brownish gray (10YR 6/2) and gray (10YR 6/1) iron depletions in the matrix; few fine rounded black (N 2.5/) concretions of iron and manganese oxide throughout the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Thickness of the solum:* 42 to more than 60 inches (107 to more than 152 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*BA or Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam

*C horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam

## 277B—Port Byron silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Map Unit Composition

Port Byron and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a surface horizon less than 10 inches thick
- Soils that have more clay in the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### Properties and Qualities of the Port Byron Soil

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **277C2—Port Byron silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders

### ***Map Unit Composition***

Port Byron and similar soils: 97 percent  
 Dissimilar soils: 3 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have a surface horizon more than 10 inches thick
- Soils that have more clay in the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### ***Properties and Qualities of the Port Byron Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## ***Proctor Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls

### ***Typical Pedon***

Proctor silt loam, 2 to 5 percent slopes, at an elevation of 705 feet; 204 feet north and 2,460 feet west of the southeast corner of sec. 3, T. 11 N., R. 6 E.; Peoria County,



Illinois; USGS Princeville topographic quadrangle; lat. 40 degrees 57 minutes 37 seconds N. and long. 89 degrees 47 minutes 59 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine roots; moderately acid; clear smooth boundary.
- A—8 to 11 inches (20 to 28 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- Bt1—11 to 16 inches (28 to 41 cm); dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—16 to 23 inches (41 to 58 cm); dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt3—23 to 28 inches (58 to 71 cm); yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt4—28 to 33 inches (71 to 84 cm); yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt5—33 to 46 inches (84 to 117 cm); strong brown (7.5YR 5/6), stratified loam and sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; slightly acid; gradual smooth boundary.
- 2C—46 to 60 inches (117 to 152 cm); strong brown (7.5YR 5/6), stratified sandy loam and loamy sand; massive; very friable; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Depth to the base of the argillic horizon:* 40 to 65 inches (102 to 165 cm)

*Ap, A, and/or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

Reaction—strongly acid to slightly alkaline

*Bt and/or BA horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

Reaction—moderately acid to neutral

*2Bt and/or 2BC horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam, silt loam, clay loam, sandy clay loam, loam, or sandy loam; stratified in some pedons  
 Reaction—moderately acid to neutral

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—sandy loam, loam, or silt loam with thin strata of loamy sand or sand

Reaction—moderately acid to slightly alkaline

## **148A—Proctor silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Proctor and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less than 20 inches of loess in the upper part
- Soils that have 40 to 60 inches of loess in the upper part
- Soils that have more sand and less silt and clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Sparta soils at the higher elevations

### ***Properties and Qualities of the Proctor Soil***

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 148B—Proctor silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Terraces

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Proctor and similar soils: 85 percent

Dissimilar soils: 15 percent

### *Minor Components*

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less than 20 inches of loess in the upper part
- Soils that have 40 to 60 inches of loess in the upper part
- Soils that have more sand and less silt and clay in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Littleton soils at the lower elevations

### *Properties and Qualities of the Proctor Soil*

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Raddle Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludolls

### **Typical Pedon**

Raddle silt loam, 0 to 2 percent slopes; 1,780 feet west and 2,020 feet north of the southeast corner of sec. 23, T. 19 N., R. 4 E.; Whiteside County, Illinois; USGS Spring Hill topographic quadrangle; lat. 41 degrees 37 minutes 03 seconds N. and long. 90 degrees 00 minutes 13 seconds W., NAD 27:

- Ap—0 to 10 inches (0 to 25 cm); black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; slightly acid; abrupt smooth boundary.
- A1—10 to 16 inches (25 to 41 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure parting to weak fine granular; friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- A2—16 to 21 inches (41 to 53 cm); dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; friable; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- BA—21 to 26 inches (53 to 66 cm); brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; common faint dark brown (10YR 3/3) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—26 to 34 inches (66 to 86 cm); dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.
- Bt2—34 to 51 inches (86 to 130 cm); dark yellowish brown (10YR 4/4) silt loam; moderate coarse subangular blocky structure; friable; few faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- BC—51 to 61 inches (130 to 155 cm); yellowish brown (10YR 5/4) silt loam; weak coarse angular blocky structure; friable; few fine black (N 2.5/) iron-manganese stains on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; moderately acid; clear smooth boundary.
- C—61 to 80 inches (155 to 203 cm); yellowish brown (10YR 5/4) silt loam; massive; friable; few fine prominent black (N 2/) soft masses of iron and manganese oxide in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Thickness of the solum:* 40 to more than 80 inches (102 to more than 203 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt or Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 or 4

Texture—silt loam

*C horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—2 to 4

Texture—silt loam; thin strata of sandy loam, loam, clay loam, or silty clay loam in some pedons

**430A—Raddle silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Stream terraces

*Position on the landform:* Summits

***Map Unit Composition***

Raddle and similar soils: 95 percent

Dissimilar soils: 5 percent

***Minor Components***

*Similar soils:*

- Soils that have a dark surface layer more than 18 inches thick
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand and less silt in the lower part

*Dissimilar soils:*

- The loamy and sandy Dickinson soils in the slightly higher positions

***Properties and Qualities of the Raddle Soil***

*Parent material:* Slope alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**430B—Raddle silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Terraces

*Position on the landform:* Shoulders and summits

***Map Unit Composition***

Raddle and similar soils: 89 percent

Dissimilar soils: 11 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a dark surface layer more than 18 inches thick
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand and less silt in the lower part

#### *Dissimilar soils:*

- The loamy and sandy Dickinson soils in the slightly higher positions

### **Properties and Qualities of the Raddle Soil**

*Parent material:* Slope alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Radford Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

### **Typical Pedon**

Radford silt loam, 0 to 2 percent slopes, occasionally flooded; 1,109 feet west and 1,254 feet south of the northeast corner of sec. 23, T. 17 N., R. 8 E.; Bureau County, Illinois; USGS Buda NE topographic quadrangle; lat. 41 degrees 26 minutes 54 seconds N. and long. 89 degrees 32 minutes 04 seconds W., NAD 27:

Ap—0 to 9 inches (0 to 23 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—9 to 21 inches (23 to 53 cm); very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots; few fine dark masses of iron and manganese oxide throughout; slightly acid; gradual smooth boundary.

C—21 to 29 inches (53 to 74 cm); stratified very dark gray (10YR 3/1) silt loam and brown (10YR 5/3) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; common fine dark masses of iron and manganese oxide throughout; slightly acid; clear smooth boundary.

Ab1—29 to 36 inches (74 to 91 cm); black (10YR 2/1) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few medium faint very dark grayish brown (10YR 3/2) masses of iron and manganese oxide in the matrix;



few very fine dark masses of iron and manganese throughout; slightly acid; clear smooth boundary.

Ab2—36 to 43 inches (91 to 109 cm); black (10YR 2/1) silty clay loam; weak medium subangular blocky structure; friable; few fine faint very dark grayish brown (10YR 3/2) masses of iron and manganese oxide in the matrix; few very fine dark masses of iron and manganese throughout; neutral; clear smooth boundary.

Bgb—43 to 60 inches (109 to 152 cm); black (10YR 2/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine faint dark gray (10YR 4/1) iron depletions in the matrix; few very fine dark masses of iron and manganese oxide throughout; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 61 cm)

*Depth to the buried soil:* 20 to 40 inches (51 to 102 cm)

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

*C horizon:*

Hue—10YR

Value—2 to 6

Chroma—1 or 2

Texture—silt loam

*Ab horizon:*

Hue—10YR or N

Value—2 or 3

Chroma—0 or 1

Texture—silt loam, silty clay loam, clay loam, or loam

*Bgb horizon (where present):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

## 3074A—Radford silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Radford and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a buried horizon at a depth of more than 40 inches
- Soils that have a lighter colored surface horizon

*Dissimilar soils:*

- The poorly drained Sawmill soils on flood plains

### ***Properties and Qualities of the Radford Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## ***Rozetta Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Rozetta silt loam, 0 to 2 percent slopes, at an elevation of 890 feet; 150 feet south and 500 feet east of the center of sec. 18, T. 27 N., R. 6 E.; Stephenson County, Illinois; USGS Pearl City topographic quadrangle; lat. 42 degrees 20 minutes 00 seconds N. and long. 89 degrees 51 minutes 19 seconds W., NAD 27:

- A—0 to 4 inches (0 to 10 cm); very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; many fine roots throughout; moderately acid; clear wavy boundary.
- E—4 to 11 inches (10 to 28 cm); dark grayish brown (10YR 4/2) silt loam; weak medium platy structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.
- BE—11 to 14 inches (28 to 36 cm); brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; firm; many fine roots between peds; few faint brown (10YR 5/3) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt1—14 to 21 inches (36 to 53 cm); dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many fine roots between peds; many faint brown (10YR 5/3) clay films on faces of peds; strongly acid; clear smooth boundary.
- Bt2—21 to 39 inches (53 to 99 cm); brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots between peds; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common faint pale brown (10YR 6/3) (dry) silt coatings on faces of peds; few medium faint grayish brown (10YR 5/2) iron depletions in the matrix; common

medium faint light yellowish brown (10YR 6/4) and brown (10YR 4/3) masses of iron in the matrix; strongly acid; clear smooth boundary.

Bt3—39 to 50 inches (99 to 127 cm); yellowish brown (10YR 5/4) silty clay loam; weak coarse subangular blocky structure; firm; common fine roots throughout; few faint brown (10YR 4/3) clay films on faces of peds; common medium faint pale brown (10YR 6/3) and common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

C—50 to 60 inches (127 to 152 cm); yellowish brown (10YR 5/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the solum:* 42 to 72 inches (107 to 183 cm)

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 or 3

Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam

*C horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

## 279A—Rozetta silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Rozetta and similar soils: 98 percent

Dissimilar soils: 2 percent

### Minor Components

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a darker surface layer
- Soils that have more silt and less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Atterberry soils on shoulders
- The somewhat poorly drained Stronghurst soils on summits

***Properties and Qualities of the Rozetta Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.4 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 1*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric**279B—Rozetta silt loam, 2 to 5 percent slopes*****Setting****Landform:* Ground moraines*Position on the landform:* Shoulders and summits***Map Unit Composition***

Rozetta and similar soils: 91 percent

Dissimilar soils: 9 percent

***Minor Components****Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a darker surface layer
- Soils that have more silt and less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Atterberry soils on shoulders
- The somewhat poorly drained Stronghurst soils on summits

***Properties and Qualities of the Rozetta Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
 February through April  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **279C2—Rozetta silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Rozetta and similar soils: 94 percent  
 Dissimilar soils: 6 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a darker surface layer
- Soils that have more silt and less clay in the subsoil

#### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on the lower backslopes

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
 February through April  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **279C3—Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Rozetta and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Minor Components***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a darker surface layer
- Soils that have more silt and less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on the lower backslopes

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,

February through April

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and high for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**279D2—Rozetta silt loam, 10 to 18 percent slopes, eroded*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

***Map Unit Composition***

Rozetta and similar soils: 95 percent

Dissimilar soils: 5 percent

***Minor Components***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more silt and less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on the lower backslopes

***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**724D2—Rozetta-Elco silt loams, 10 to 18 percent slopes,  
eroded*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

***Map Unit Composition***

Rozetta and similar soils: 55 percent

Elco and similar soils: 35 percent

Dissimilar soils: 10 percent



### **Minor Components**

*Similar soils:*

- Soils that have 40 to 60 inches of loess over till
- Soils that have more clay and less silt in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on the lower backslopes

### **Properties and Qualities of the Rozetta Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 feet,  
February through April

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Rozetta—3e; Elco—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Rozetta—not hydric; Elco—not hydric

## **Sable Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Endoaquolls

### **Typical Pedon**

Sable silty clay loam, 0 to 2 percent slopes; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; Warren County, Illinois; USGS Kirkwood East topographic quadrangle; lat. 40 degrees 46 minutes 30 seconds N. and long. 90 degrees 41 minutes 32 seconds W., NAD 27:

- Ap—0 to 8 inches (0 to 20 cm); black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.
- A—8 to 19 inches (20 to 48 cm); black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine rounded dark concretions of iron and manganese oxides; slightly acid; clear smooth boundary.
- AB—19 to 23 inches (48 to 58 cm); very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine dark rounded concretions of iron and manganese; clear smooth boundary.
- Bg—23 to 29 inches (58 to 74 cm); dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium dark rounded concretions of iron and manganese oxides; common medium distinct brown (10YR 5/3) masses of iron in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions; neutral; clear smooth boundary.
- Btg1—29 to 38 inches (74 to 97 cm); grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium dark rounded concretions of iron and manganese; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; neutral; clear wavy boundary.
- Btg2—38 to 47 inches (97 to 119 cm); gray (N 5/) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few prominent grayish brown (10YR 5/2) clay films on faces of peds; common fine dark rounded concretions of iron and manganese; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly alkaline; gradual smooth boundary.
- Cg—47 to 60 inches (119 to 152 cm); gray (N 5/) silt loam; massive; friable; many fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly effervescent; slightly alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 12 to 24 inches (30 to 61 cm)

*Thickness of the solum:* 40 to 60 inches (102 to 152 cm)

*Ap or A horizon:*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam or silt loam

*Bg or Btg horizon:*

Hue—10YR to 5Y or N

Value—3 to 6  
 Chroma—0 to 2  
 Texture—silty clay loam or silt loam

*Cg horizon:*

Hue—10YR to 5Y or N  
 Value—4 to 6  
 Chroma—0 to 2  
 Texture—silt loam or silty clay loam

## **68A—Sable silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits and toeslopes

### ***Map Unit Composition***

Sable and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have silt loam overwash
- Soils that have a thinner surface layer and a lighter colored subsurface layer
- Soils that are calcareous in the lower part

*Dissimilar soils:*

- The well drained Osco soils on summits and shoulders
- The somewhat poorly drained Muscatune soils on summits

### ***Properties and Qualities of the Sable Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
 January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Sawmill Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

### **Typical Pedon**

Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; Sangamon County, Illinois; USGS New City topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W., NAD 27:

- Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; slightly acid; clear smooth boundary.
- A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions with diffuse boundaries lining pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation lining pores; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches (61 to 91 cm)

*Thickness of the solum:* 36 to 60 inches (91 to 152 cm)

*Ap or A horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

*Bg or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam; stratified in some pedons

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or clay loam; stratified in some pedons

## 1107A—Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Sawmill and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have silt loam overwash

*Dissimilar soils:*

- The somewhat poorly drained Lawson, Orion, and Radford soils on flood plains

### Properties and Qualities of the Sawmill Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, November through June

*Depth and months of the deepest ponding:* 0.5 foot, November through June  
*Frequency and most likely period of flooding:* Frequent, November through June  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 5w  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hydric

### **3107+—Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash**

#### ***Setting***

*Landform:* Flood plains

#### ***Map Unit Composition***

Sawmill and similar soils: 98 percent  
 Dissimilar soils: 2 percent

#### ***Minor Components***

##### *Similar soils:*

- Soils that have more clay in the subsoil

##### *Dissimilar soils:*

- The somewhat poorly drained Lawson, Orion, and Radford soils on flood plains

#### ***Properties and Qualities of the Sawmill Soil***

*Parent material:* Alluvium  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 4.0 to 5.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* At the surface, January through May  
*Frequency and most likely period of flooding:* Frequent, November through June  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 3w  
*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season  
*Hydric soil status:* Hydric

## **3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Sawmill and similar soils: 99 percent

Dissimilar soils: 1 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have silt loam overwash

#### *Dissimilar soils:*

- The somewhat poorly drained Lawson, Orion, and Radford soils on flood plains

### ***Properties and Qualities of the Sawmill Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from  
flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## **7107A—Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Sawmill and similar soils: 90 percent

Dissimilar soils: 10 percent



### **Minor Components**

*Similar soils:*

- Soils that have a thinner surface horizon
- Soils that have more clay in the subsoil
- Soils that have silt loam overwash

*Dissimilar soils:*

- The somewhat poorly drained Lawson, Orion, and Radford soils on flood plains

### **Properties and Qualities of the Sawmill Soil**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Rare, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Seaton Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Seaton silt loam, 2 to 5 percent slopes; 660 feet north and 30 feet east of the center of sec. 8, T. 11 N., R. 4 W.; Henderson County, Illinois; USGS Rozetta topographic quadrangle; lat. 40 degrees 57 minutes 44 seconds N. and long. 90 degrees 52 minutes 24 seconds W., NAD 27:

A—0 to 4 inches (0 to 10 cm); dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; very friable; slightly acid; clear smooth boundary.

E—4 to 9 inches (10 to 23 cm); brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thin platy structure; friable; slightly acid; clear smooth boundary.

BE—9 to 15 inches (23 to 38 cm); yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films and common faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—15 to 21 inches (38 to 53 cm); yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; few faint dark brown (10YR

- 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt2—21 to 27 inches (53 to 69 cm); brown (7.5YR 5/4) silt loam; moderate fine and medium subangular blocky structure; firm; few faint dark brown (10YR 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt3—27 to 34 inches (69 to 86 cm); yellowish brown (10YR 5/4) silt loam; moderate medium angular blocky structure; firm; common faint dark brown (10YR 3/3) clay films on faces of peds; strongly acid; gradual smooth boundary.
- Bt4—34 to 44 inches (86 to 112 cm); brown (10YR 5/3) silt loam; weak medium and coarse prismatic structure; firm; few faint dark brown (10YR 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
- BC—44 to 70 inches (112 to 178 cm); brown (10YR 4/3) silt loam; weak very coarse prismatic structure; friable; few faint brown (7.5YR 4/2) clay films on vertical faces of peds; moderately acid; gradual smooth boundary.
- C—70 to 95 inches (178 to 241 cm); light brownish gray (10YR 6/2) and brown (10YR 5/3) silt loam; massive; friable; common fine faint dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the loess:* More than 80 inches (203 cm)

*Thickness of the solum:* 42 to more than 60 inches (107 to more than 152 cm)

*Ap or A horizon:*

Hue—10YR  
 Value—2 to 4  
 Chroma—2 or 3  
 Texture—silt loam or silt  
 Reaction—moderately acid to neutral

*E horizon (where present):*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 to 4  
 Texture—silt loam or silt  
 Reaction—moderately acid to neutral

*Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—silt loam or silt  
 Reaction—very strongly acid to neutral

*BC horizon (where present):*

Hue—10YR or 2.5Y  
 Value—4 or 5  
 Chroma—3 or 4

*C horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—2 to 6

Texture—silt loam or silt

Reaction—moderately acid to moderately alkaline

## **274A—Seaton silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### ***Map Unit Composition***

Seaton and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum

*Dissimilar soils:*

- The poorly drained Edgington soils in depressions
- The well drained, sandy Coloma and Sparta soils on summits

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **274B—Seaton silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### ***Map Unit Composition***

Seaton and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum

#### *Dissimilar soils:*

- The poorly drained Edgington soils in depressions
- The well drained, sandy Coloma and Sparta soils on summits
- Soils that are calcareous throughout

### **Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **274C2—Seaton silt loam, 5 to 10 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### **Map Unit Composition**

Seaton and similar soils: 97 percent

Dissimilar soils: 3 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **274C3—Seaton silt loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 98 percent

Dissimilar soils: 2 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface layer

*Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **274D2—Seaton silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 98 percent

Dissimilar soils: 2 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

*Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **274D3—Seaton silt loam, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 98 percent

Dissimilar soils: 2 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface layer

*Dissimilar soils:*

- Soils that are calcareous throughout

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **937D2—Seaton-Hickory silt loams, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 50 percent

Hickory and similar soils: 45 percent

Dissimilar soils: 5 percent



### **Minor Components**

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### **Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Seaton—3e; Hickory—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## **937D3—Seaton-Hickory complex, 10 to 18 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Seaton and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### **Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Moderate

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Seaton—4e; Hickory—4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## 937F—Seaton-Hickory silt loams, 18 to 35 percent slopes

### *Setting*

*Landform:* Ground moraines

### *Map Unit Composition*

Seaton and similar soils: 45 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 15 percent

### *Minor Components*

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

#### *Dissimilar soils:*

- Soils that are calcareous throughout

### *Properties and Qualities of the Seaton Soil*

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Properties and Qualities of the Hickory Soil*

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* Seaton—6e; Hickory—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## 937G—Seaton-Hickory silt loams, 35 to 60 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### *Map Unit Composition*

Seaton and similar soils: 45 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 15 percent

### *Minor Components*

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface layer

*Dissimilar soils:*

- Soils that are calcareous throughout

### *Properties and Qualities of the Seaton Soil*

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Properties and Qualities of the Hickory Soil*

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* Seaton—7e; Hickory—7e

*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Hickory—not hydric

## **943D3—Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 45 percent  
 Timula and similar soils: 40 percent  
 Dissimilar soils: 15 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface horizon
- Soils that are calcareous within a depth of 20 inches

#### *Dissimilar soils:*

- Excessively drained, sandy soils on summits

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Timula Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—6e; Timula—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Timula—not hydric

## **943F2—Seaton-Timula silt loams, 18 to 35 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 45 percent

Timula and similar soils: 40 percent

Dissimilar soils: 15 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface horizon
- Soils that are calcareous within a depth of 20 inches

*Dissimilar soils:*

- Excessively drained, sandy soils on summits

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Low  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Seaton—6e; Timula—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Timula—not hydric

### **943G—Seaton-Timula silt loams, 35 to 60 percent slopes**

#### ***Setting***

*Landform:* Ground moraines and loess hills  
*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Seaton and similar soils: 50 percent  
 Timula and similar soils: 40 percent  
 Dissimilar soils: 10 percent

#### ***Minor Components***

##### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface horizon
- Soils that are calcareous within a depth of 20 inches

##### *Dissimilar soils:*

- Excessively drained, sandy soils on summits

#### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low



### ***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—7e; Timula—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Timula—not hydric

## ***Selma Series***

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

### ***Typical Pedon***

Selma loam, 0 to 2 percent slopes; 52 feet (15.8 meters) south and 160 feet (48.8 meters) west of the northwest corner of sec. 18, T. 28 N., R. 10 E.; USGS Piper City NE topographic quadrangle; lat. 40 degrees 54 minutes 35 seconds N. and long. 88 degrees 06 minutes 43 seconds W., NAD 27; UTM Zone 16, 406352E and 4529334N, NAD 83:

Ap—0 to 6 inches (0 to 15 centimeters); black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual smooth boundary.

A—6 to 13 inches (15 to 33 centimeters); black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure; friable; common fine roots; neutral gradual wavy boundary.

Btg1—13 to 19 inches (33 to 48 centimeters); dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many prominent very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; few fine distinct yellowish brown (10YR 5/4) masses of iron in the matrix; neutral; gradual wavy boundary.

Btg2—19 to 28 inches (48 to 71 centimeters); grayish brown (2.5Y 5/2) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many prominent dark gray (2.5Y 4/1) clay films on faces of peds; few fine distinct light olive brown (2.5Y 5/4) iron and manganese nodules throughout; common medium distinct olive brown (2.5Y 4/4) masses of iron in the matrix; slightly alkaline; gradual wavy boundary.

Btg3—28 to 39 inches (71 to 99 centimeters); grayish brown (2.5Y 5/2) loam; weak fine and medium subangular blocky structure; friable; common fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; black (N 2.5/) krotovina at a depth of 30 to 39 inches; few fine prominent dark yellowish brown (10YR 4/6) iron and manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron in the matrix; slightly alkaline; gradual wavy boundary.

- BCtg—39 to 44 inches (99 to 112 centimeters); grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds; few fine prominent dark yellowish brown (10YR 4/6) iron and manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.
- Cg1—44 to 54 inches (112 to 137 centimeters); 55 percent dark gray (2.5Y 4/1), 35 percent gray (2.5Y 5/1), and 10 percent light yellowish brown (2.5Y 6/4), stratified sandy loam and loamy sand; massive in the sandy loam and single grain in the loamy sand; friable in the sandy loam and loose in the loamy sand; few very fine roots; very strongly effervescent; moderately alkaline; gradual wavy boundary.
- Cg2—54 to 80 inches (137 to 203 centimeters); 45 percent dark gray (2.5Y 4/1), 45 percent gray (2.5Y 5/1), and 10 percent light olive brown (2.5Y 5/6), stratified silt loam, sandy loam, and loamy sand; massive in the silt loam and sandy loam and single grain in the loamy sand; friable; few roots; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 61 cm)

*Thickness of the solum:* 35 to 55 inches (89 to 140 cm)

*Ap and AB horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam or clay loam

*Bg and BCg horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—clay loam, silty clay loam, silt loam, sandy loam, or sandy clay loam

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 6

Texture—stratified sand, loamy sand, sandy loam, loam, or silt loam

## 125A—Selma loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains

*Position on the landform:* Toeslopes

### Map Unit Composition

Selma and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 1 to 2 feet
- Soils that have a dark surface layer more than 24 inches thick
- Soils that have more clay throughout
- Soils that have less sand and more silt in the subsoil

*Dissimilar soils:*

- The well drained Dickinson and excessively drained Sparta soils at the higher elevations

**Properties and Qualities of the Selma Soil**

*Parent material:* Outwash

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

**Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

**Shaffton Series**

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls

**Typical Pedon**

Shaffton loam, 0 to 2 percent slopes, rarely flooded; 2,210 feet north and 2,000 feet east of the southwest corner of sec. 36, T. 10 N., R. 6 W.; Henderson County, Illinois; USGS Burlington topographic quadrangle; lat. 40 degrees 48 minutes 50 seconds N. and long. 91 degrees 01 minute 48 seconds W., NAD 27:

Ap—0 to 7 inches (0 to 18 cm); black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; slightly acid; clear smooth boundary.

A—7 to 15 inches (18 to 38 cm); black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure; friable; moderately acid; clear wavy boundary.

AB—15 to 20 inches (38 to 51 cm); very dark grayish brown (10YR 3/2) loam; weak medium prismatic structure; friable; moderately acid; clear wavy boundary.

Bw1—20 to 25 inches (51 to 64 cm); dark grayish brown (10YR 4/2) loam; weak medium prismatic structure; friable; common medium distinct dark brown (7.5YR 3/4) and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations on faces of peds; strongly acid; clear wavy boundary.

Bw2—25 to 30 inches (64 to 76 cm); mixed dark grayish brown (10YR 4/2) and gray (10YR 5/1) loam; weak coarse prismatic structure; friable; common medium distinct dark brown (7.5YR 3/4) and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations on faces of peds; strongly acid; clear wavy boundary.

- Bw3—30 to 40 inches (76 to 102 cm); gray (10YR 5/1) loam; weak coarse prismatic structure; friable; common medium distinct dark brown (7.5YR 3/4) and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations on faces of peds; strongly acid; clear wavy boundary.
- BC—40 to 50 inches (102 to 127 cm); gray (10YR 5/1) loam; massive; friable; common medium distinct dark brown (7.5YR 3/4) and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations in the matrix; slightly acid; abrupt wavy boundary.
- C1—50 to 56 inches (127 to 142 cm); grayish brown (10YR 5/2) and gray (10YR 5/1), stratified sand and loamy sand; single grain; common fine distinct dark brown (7.5YR 3/4) and few fine prominent strong brown (7.5YR 5/6) redoximorphic concentrations in the matrix; loose; neutral; abrupt wavy boundary.
- 2C2—56 to 60 inches (142 to 152 cm); gray (10YR 5/1) silty clay loam; massive; neutral.

### Range in Characteristics

*Depth to carbonates:* More than 60 inches (152 cm)

*Thickness of the solum:* 30 to 50 inches (76 to 127 cm)

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam, clay loam, or silt loam

*Bw horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 or 3

*C horizon:*

Texture—stratified silty clay loam to sand

## 7183A—Shaffton loam, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Shaffton and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have less sand and more silt throughout
- Soils that have a thinner surface horizon

*Dissimilar soils:*

- The poorly drained Ambraw, Sawmill, and Wabash soils on flood plains

### Properties and Qualities of the Shaffton Soil

*Parent material:* Alluvium

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.5 to 4.0 percent  
*Shrink-swell potential:* Low  
*Depth and months of the highest apparent seasonal high water table:* 1.5 feet,  
 February through April  
*Frequency and most likely period of flooding:* Rare, November through June  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **Sparta Series**

*Taxonomic classification:* Sandy, mixed, mesic Entic Hapludolls

### **Typical Pedon**

Sparta loamy sand, 0 to 2 percent slopes; 2,150 feet north and 1,939 feet east of the southwest corner of sec. 20, T. 23 N., R. 10 E.; Ogle County, Illinois; USGS Daysville topographic quadrangle; lat. 41 degrees 57 minutes 58 seconds N. and long. 89 degrees 22 minutes 13 seconds W., NAD 27:

- A1—0 to 10 inches (0 to 25 cm); very dark gray (10YR 3/1) loamy sand, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate very fine granular; very friable; many fine roots throughout; neutral; clear smooth boundary.
- A2—10 to 17 inches (25 to 43 cm); very dark grayish brown (10YR 3/2) loamy sand, grayish brown (10YR 5/2) dry; very weak medium and coarse subangular blocky structure parting to moderate very fine granular; very friable; common fine roots throughout; neutral; clear smooth boundary.
- Bw1—17 to 24 inches (43 to 61 cm); dark yellowish brown (10YR 5/4) sand; weak medium and coarse subangular blocky structure; very friable; few fine roots throughout; few distinct very dark grayish brown (10YR 3/2) organic coatings and few faint dark brown (10YR 3/3) clay bridges between sand grains; strongly acid; clear smooth boundary.
- Bw2—24 to 31 inches (61 to 79 cm); brown (7.5YR 5/4) sand; weak medium and coarse subangular blocky structure; very friable; few fine roots throughout; moderately acid; clear smooth boundary.
- C—31 to 60 inches (79 to 152 cm); reddish yellow (7.5YR 6/6) sand; single grain; loose; moderately acid.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 20 inches (25 to 51 cm)

*Ap or A horizon:*  
 Hue—7.5YR or 10YR  
 Value—2 or 3

Chroma—1 or 2

Texture—fine sand, sand, loamy fine sand, or loamy sand

*Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 6

Texture—fine sand, sand, loamy sand, or loamy fine sand

*C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—fine sand or sand

## **88A—Sparta loamy sand, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Sparta and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick
- Soils that have more clay and less sand in the lower part
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The well drained Raddle soils on stream terraces
- The poorly drained Selma soils in the lower positions

### ***Properties and Qualities of the Sparta Soil***

*Parent material:* Sandy outwash

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* High

### ***Interpretive Groups***

*Land capability classification:* 4s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 88B—Sparta loamy sand, 1 to 6 percent slopes

### *Setting*

*Landform:* Stream terraces

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Sparta and similar soils: 91 percent

Dissimilar soils: 9 percent

### *Minor Components*

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick
- Soils that have more clay and less sand in the lower part
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The poorly drained Selma soils in the lower positions

### *Properties and Qualities of the Sparta Soil*

*Parent material:* Outwash and/or eolian sands

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:* Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* High

### *Interpretive Groups*

*Land capability classification:* 4s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Stronghurst Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

### **Typical Pedon**

Stronghurst silt loam, 0 to 2 percent slopes; 1,440 feet north and 200 feet east of the southwest corner of sec. 26, T. 15 N., R. 4 W., Mercer County, Illinois; USGS Buffalo Prairie quadrangle; lat. 41 degrees 15 minutes 43 seconds N. and long. 90 degrees 49 minutes 20 seconds W., NAD 83:

Ap—0 to 7 inches (0 to 18 cm); dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; common roots; neutral; clear smooth boundary.

E—7 to 11 inches (18 to 28 cm); dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure; friable; common roots; few fine and medium dark



- reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; slightly acid; clear smooth boundary.
- BE—11 to 15 inches (28 to 38 cm); dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; common roots; common faint light brownish gray (10YR 6/2) clay depletions on faces of peds; few dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; strongly acid; clear smooth boundary.
- Bt1—15 to 22 inches (38 to 56 cm); grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of iron in the matrix; common dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; strongly acid; gradual smooth boundary.
- Bt2—22 to 29 inches (56 to 74 cm); brown (10YR 5/3) silty clay loam; moderate fine and medium subangular blocky structure; firm; few roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron and common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; many dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; strongly acid; gradual smooth boundary.
- Bt3—29 to 35 inches (74 to 89 cm); brown (10YR 5/3) silty clay loam; weak coarse subangular blocky structure; firm; few roots; common distinct dark gray (10YR 4/1) clay films on faces of peds and on surfaces along root channels; many medium faint dark yellowish brown (10YR 4/4) and many medium distinct yellowish brown (10YR 5/6) iron masses in the matrix; many dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; strongly acid; gradual smooth boundary.
- Bt4—35 to 47 inches (89 to 119 cm); pale brown (10YR 6/3) silty clay loam; weak coarse subangular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds and on surfaces along root channels; many medium distinct yellowish brown (10YR 5/6) masses of iron in the matrix; many dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; moderately acid; gradual wavy boundary.
- C—47 to 60 inches (119 to 152 cm); mixed pale brown (10YR 6/3) and yellowish brown (10YR 5/6) silt loam; massive; friable; many soft dark reddish brown (5YR 3/2) concretions of iron and manganese oxides in the matrix; moderately acid.

### Range in Characteristics

*Thickness of the solum:* More than 42 inches (107 cm)

*Depth to the top of the argillic horizon:* 6 to 24 inches (15 to 61 cm)

*Ap or A horizon:*

Value—3 to 6

Chroma—1 or 2

*E horizon:*

Value—4 to 6

Chroma—2 or 3

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4  
Texture—silty clay loam or silt loam

*C or Cg horizon:*

Hue—10YR or 2.5Y  
Value—4 to 6  
Chroma—1 to 4  
Texture—silt loam or silty clay loam

## **278A—Stronghurst silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Summits

### ***Map Unit Composition***

Stronghurst and similar soils: 97 percent  
Dissimilar soils: 3 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a dark surface layer more than 10 inches thick
- Soils that have a thinner surface layer
- Soils that have less clay and more silt in the subsoil

*Dissimilar soils:*

- The well drained Rozetta soils on summits
- The well drained Fayette and Greenbush soils on shoulders

### ***Properties and Qualities of the Stronghurst Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## 278B—Stronghurst silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Summits

### *Map Unit Composition*

Stronghurst and similar soils: 97 percent

Dissimilar soils: 3 percent

### *Minor Components*

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have a dark surface layer more than 10 inches thick
- Soils that have a thinner surface layer
- Soils that have less clay and more silt in the subsoil

*Dissimilar soils:*

- The well drained Rozetta soils on summits
- The well drained Fayette and Greenbush soils on shoulders

### *Properties and Qualities of the Stronghurst Soil*

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Thorp Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

### **Typical Pedon**

Thorp silt loam, 0 to 2 percent slopes; 990 feet north and 2,240 feet west of the southeast corner of sec. 27, T. 36 N., R. 5 E.; La Salle County, Illinois; USGS Sheridan topographic quadrangle; lat. 41 degrees 33 minutes 20 seconds N. and long. 88 degrees 38 minutes 10 seconds W., NAD 27:

- Ap—0 to 7 inches (0 to 18 cm); black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; common very fine roots throughout; neutral; abrupt smooth boundary.
- A—7 to 14 inches (18 to 36 cm); very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common very fine roots throughout; slightly acid; abrupt smooth boundary.
- Eg—14 to 19 inches (36 to 48 cm); dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak fine granular structure; friable; common very fine roots throughout; few fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.
- Btg1—19 to 21 inches (48 to 53 cm); mixed dark gray (10YR 4/1) and dark grayish brown (2.5Y 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; common very fine roots between peds; many distinct very dark gray (10YR 3/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.
- Btg2—21 to 33 inches (53 to 84 cm); mixed gray (5Y 5/1) and olive gray (5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many prominent very dark gray (10YR 3/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.
- Btg3—33 to 43 inches (84 to 109); grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; many distinct very dark gray (10YR 3/1) and dark gray (N 4/) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and common fine distinct light yellowish brown (2.5Y 6/4) iron masses in the matrix; slightly acid; clear smooth boundary.
- 2Btg4—43 to 50 inches (109 to 127 cm); mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) sandy clay loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.
- 2Cg—50 to 65 inches (127 to 165 cm); mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) sandy loam with thin strata of sand; massive in the sandy loam; single grain in the sand; friable in the sandy loam; loose in the sand; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 14 inches (25 to 36 cm)

*Thickness of the silty material:* 30 to 54 inches (76 to 137 cm)

*Depth to free carbonates:* More than 40 inches (102 cm)

*Thickness of the solum:* 40 to 65 inches (102 to 165 cm)

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Btg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 or 2  
 Texture—silty clay loam or silt loam

*2Btg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—clay loam, loam, silt loam, sandy loam, or sandy clay loam

*2Cg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 8  
 Texture—loam, silt loam, sandy loam, loamy sand, or sandy clay loam

**206A—Thorp silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Depressions

***Map Unit Composition***

Thorp and similar soils: 94 percent

Dissimilar soils: 6 percent

***Minor Components****Similar soils:*

- Soils that have a dark surface layer less than 10 inches thick
- Soils with a reddish subsoil
- Soils that have more sand and less clay in the subsoil
- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Littleton soils in the higher positions
- The well drained Proctor and Crescent soils in the higher positions

***Properties and Qualities of the Thorp Soil***

*Parent material:* Loess over outwash

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
 January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

### **Tice Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

#### **Typical Pedon**

Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded; 1,670 feet north and 990 feet west of the southeast corner of sec. 22, T. 2 S., R. 9 W.; USGS Quincy West topographic quadrangle; lat. 39 degrees 52 minutes 56 seconds N. and long. 91 degrees 25 minutes 07 seconds W., NAD 27:

- Ap—0 to 9 inches (0 to 23 cm); very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak medium granular; firm; common very fine roots throughout; neutral; abrupt smooth boundary.
- A—9 to 14 inches (23 to 36 cm); very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; firm; few very fine roots throughout; few fine faint brown (10YR 4/3) masses of iron in the matrix; neutral; clear smooth boundary.
- BA—14 to 19 inches (36 to 48 cm); dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine faint brown (7.5YR 4/3) masses of iron in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bw—19 to 35 inches (48 to 89 cm); brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bg1—35 to 44 inches (89 to 112 cm); dark grayish brown (10YR 4/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron in the matrix; moderately acid; gradual smooth boundary.
- Bg2—44 to 61 inches (112 to 155 cm); dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron in the matrix; slightly acid; clear smooth boundary.
- Bg3—61 to 80 inches (155 to 203 cm); dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron in the matrix; slightly acid.

#### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 24 inches (25 to 61 cm)

*Depth to the base of soil development:* 30 to more than 80 inches (76 to more than 203 cm)

*Ap or A horizon:*

Hue—10YR  
 Value—2 or 3  
 Chroma—1 to 3  
 Texture—silty clay loam or silt loam  
 Reaction—slightly acid to slightly alkaline

*Bw or Bg horizon:*

Hue—10YR or 2.5Y  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silty clay loam or silt loam  
 Reaction—strongly acid to neutral

*BC or BCg horizon:*

Hue—10YR or 2.5Y  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silty clay loam or silt loam  
 Reaction—strongly acid to neutral

*Cg or C horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 3  
 Texture—stratified silty clay loam, clay loam, loam, sandy loam, or silt loam; thin strata of fine sand in some pedons  
 Reaction—strongly acid to slightly alkaline

## **3284A—Tice silty clay loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Tice and similar soils: 97 percent  
 Dissimilar soils: 3 percent

### ***Minor Components***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have less clay and more silt in the subsoil
- Soils that have a thicker dark surface layer

*Dissimilar soils:*

- The poorly drained Birds soils on flood plains

### ***Properties and Qualities of the Tice Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.1 inches to a depth of 60 inches



*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **7284A—Tice silt loam, 0 to 2 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Tice and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

#### ***Similar soils:***

- Soils that have a buried horizon within a depth of 60 inches
- Soils that have a seasonal high water table at a depth of 2 to 4 feet
- Soils that have less clay and more silt in the subsoil
- Soils that have a thicker dark surface layer

#### ***Dissimilar soils:***

- The poorly drained Ambraw, Beaucoup, and Wabash soils in the lower positions on flood plains
- The well drained Dozaville soils in the higher positions

### ***Properties and Qualities of the Tice Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1.0 foot, January through May

*Frequency and most likely period of flooding:* Rare, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **Timula Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, mesic Typic Eutrudepts

### **Typical Pedon**

Timula silt loam, in an area of Seaton-Timula silt loams, 35 to 65 percent slopes; on a northwest-facing slope of 41 percent, in a wooded area; 1,561 feet west and 2,158 feet north of the southeast corner of sec. 10, T. 10 N., R. 5 W.; Henderson County, Illinois; USGS Oquawka topographic quadrangle; lat. 40 degrees 52 minutes 18 seconds N. and long. 90 degrees 56 minutes 49 seconds W., NAD 83:

- A—0 to 13 cm (0 to 5 inches); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many roots; neutral; clear smooth boundary.
- E—13 to 20 cm (5 to 8 inches); brown (10YR 5/3) silt loam; weak medium platy structure; friable; many roots; neutral; clear smooth boundary.
- Bw1—20 to 38 cm (8 to 15 inches); dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; common roots; neutral; gradual smooth boundary.
- Bw2—38 to 56 cm (15 to 22 inches); yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few roots; neutral; clear smooth boundary.
- C1—56 to 100 cm (22 to 40 inches); light yellowish brown (10YR 6/4) silt; massive; friable; strongly effervescent; moderately alkaline; clear smooth boundary.
- C2—100 to 155 cm (40 to 61 inches); pale brown (10YR 6/3) and yellowish brown (10YR 5/6) silt; massive; friable; strongly effervescent; moderately alkaline; clear smooth boundary.
- C3—155 to 203 cm (61 to 80 inches); pale brown (10YR 6/3) silt; massive; friable; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the solum:* 18 to 40 inches (46 to 102 cm)  
*Depth to carbonates:* 18 to 40 inches (46 to 102 cm)

*Ap or A horizon:*

Hue—10YR  
 Value—3 or 4  
 Chroma—1 to 3  
 Texture—silt loam or silt

*E horizon (where present):*

Hue—10YR  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silt loam or silt

*Bw horizon:*

Hue—10YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—silt loam or silt

*BC, Bk, or C horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—5 or 6  
 Chroma—2 to 4  
 Texture—silt loam or silt

**271C2—Timula silt loam, 5 to 10 percent slopes, eroded*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

***Map Unit Composition***

Timula and similar soils: 90 percent

Dissimilar soils: 10 percent

***Minor Components****Similar soils:*

- Soils that are calcareous within a depth of 18 inches
- Soils that do not have carbonates within a depth of 60 inches

*Dissimilar soils:*

- The excessively drained Coloma and Sparta soils on summits and backslopes

***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **271D2—Timula silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Timula and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Minor Components***

*Similar soils:*

- Soils that are calcareous within a depth of 18 inches
- Soils that do not have carbonates within a depth of 60 inches

*Dissimilar soils:*

- The excessively drained Coloma and Sparta soils on summits and backslopes

### ***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **943D3—Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Seaton and similar soils: 45 percent

Timula and similar soils: 40 percent

Dissimilar soils: 15 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more clay in the subsoil

- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thicker surface horizon
- Soils that are calcareous within a depth of 20 inches

*Dissimilar soils:*

- Excessively drained, sandy soils on summits

***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* Seaton—6e; Timula—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Timula—not hydric

**943F2—Seaton-Timula silt loams, 18 to 35 percent slopes,  
eroded**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

***Map Unit Composition***

Seaton and similar soils: 45 percent

Timula and similar soils: 40 percent

Dissimilar soils: 15 percent

### ***Minor Components***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface horizon
- Soils that are calcareous within a depth of 20 inches

#### *Dissimilar soils:*

- Excessively drained, sandy soils on summits

### ***Properties and Qualities of the Seaton Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Timula Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Seaton—6e; Timula—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Timula—not hydric

## 943G—Seaton-Timula silt loams, 35 to 60 percent slopes

### **Setting**

*Landform:* Ground moraines and loess hills

*Position on the landform:* Backslopes

### **Map Unit Composition**

Seaton and similar soils: 50 percent

Timula and similar soils: 40 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface layer
- Soils that have more sand in the substratum
- Soils that have a thinner surface horizon
- Soils that are calcareous within a depth of 20 inches

*Dissimilar soils:*

- Excessively drained, sandy soils on summits

### **Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Timula Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low



### **Interpretive Groups**

*Land capability classification:* Seaton—7e; Timula—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Seaton—not hydric; Timula—not hydric

### **Wabash Series**

*Taxonomic classification:* Fine, smectitic, mesic Cumulic Vertic Endoaquolls

#### **Typical Pedon**

Wabash silty clay, 0 to 2 percent slopes, rarely flooded; 2,620 feet south and 1,340 feet east of the northwest corner of sec. 36, T. 16 N., R. 6 W.; Rock Island County, Illinois; USGS Blanchard Island topographic quadrangle; lat. 41 degrees 20 minutes 02 seconds N. and long. 91 degrees 01 minute 06 seconds W., NAD 27:

- Ap—0 to 6 inches (0 to 15 cm); black (N 2.5/) silty clay, dark gray (5Y 4/1) dry; moderate medium and coarse subangular blocky and angular blocky structure; firm; neutral; abrupt smooth boundary.
- A—6 to 15 inches (15 to 38 cm); black (N 2.5/) silty clay, dark gray (5Y 4/1) dry; moderate medium and coarse subangular blocky and angular blocky structure; firm; neutral; clear smooth boundary.
- Bg1—15 to 32 inches (38 to 81 cm); black (N 2.5/) clay, dark gray (5Y 4/1) dry; moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; olive (5Y 4/4) root linings in the lower part; neutral; clear smooth boundary.
- Bg2—32 to 40 inches (81 to 102 cm); mixed black (N 2.5/) and dark gray (5Y 4/1) clay; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many fine prominent olive (5Y 4/4) and many fine prominent brownish yellow (10YR 6/8) redoximorphic features; common fine prominent white (10YR 8/1) redoximorphic features lining root channels; neutral; abrupt smooth boundary.
- Cg—40 to 63 inches (102 to 160 cm); dark gray (10YR 4/1), olive brown (2.5Y 4/4), olive gray (5Y 5/2), and olive (5Y 5/3) clay loam; massive parting to weak coarse subangular blocky structure in the upper half; firm; many fine faint olive (5Y 4/4) and many fine prominent brownish yellow (10YR 6/8) masses of iron in the matrix; common fine prominent white (10YR 8/1) redoximorphic features lining root channels; abundant snail shells in the upper half and few in the lower half; moderately alkaline.

#### **Range in Characteristics**

*Thickness of the mollic epipedon:* More than 36 inches (91 cm)

*Thickness of the solum:* 40 to 60 inches (102 to 152 cm)

*Ap and A horizons:*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay or clay

*Bg horizon (upper part):*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay or clay

*Bg horizon (lower part):*

Hue—10YR to 5Y or N  
 Value—2 to 5  
 Chroma—0 to 2  
 Texture—silty clay or clay

*Cg horizon:*

Hue—10YR, 5YR, or N  
 Value—2 to 5  
 Chroma—0 to 2  
 Texture—silty clay or clay

## **1083A—Wabash silty clay, undrained, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Wabash and similar soils: 100 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more silt and less clay in the subsoil
- Soils that have more clay throughout
- Soils that have more sand in the subsoil
- Soils that have a dark surface layer 10 to 24 inches thick

### ***Properties and Qualities of the Wabash Soil***

*Parent material:* Clayey alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Very high

*Depth and months of the highest apparent seasonal high water table:* At the surface,  
January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 5w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## **7083A—Wabash silty clay, 0 to 2 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Wabash and similar soils: 100 percent

### ***Minor Components***

*Similar soils:*

- Soils that have more silt and less clay in the subsoil
- Soils that have more clay throughout
- Soils that have more sand in the subsoil
- Soils that have a dark surface layer 10 to 24 inches thick
- Soils that are ponded for more than brief periods

### ***Properties and Qualities of the Wabash Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Very high

*Depth and months of the highest apparent seasonal high water table:* At the surface, January through May

*Depth and months of the deepest ponding:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Rare, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Wakeland Series***

*Taxonomic classification:* Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

### ***Typical Pedon***

Wakeland silt loam, 0 to 2 percent slopes, frequently flooded; 1,010 feet west and 2,040 feet south of the northeast corner of sec. 24, T. 22 N., R. 5 E.; Whiteside County, Illinois; USGS Milledgeville topographic quadrangle; lat. 41 degrees 52 minutes 55 seconds N. and long. 89 degrees 51 minutes 56 seconds W., NAD 27:

- Ap—0 to 9 inches (0 to 23 cm); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; massive; friable; many thin strata of yellowish brown (10YR 5/4) silt loam; neutral; clear smooth boundary.
- C1—9 to 17 inches (23 to 43 cm); brown (10YR 5/3) silt loam; massive; friable; many thin strata of yellowish brown (10YR 5/4) and dark grayish brown (10YR 4/2) silt loam; few fine soft masses of iron and manganese oxide; few fine distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear wavy boundary.
- C2—17 to 25 inches (43 to 64 cm); dark grayish brown (10YR 4/2) silt loam; massive; very friable; many thin strata of yellowish brown (10YR 5/4), very dark gray (10YR 3/1), and pale brown (10YR 6/3) silt loam; common fine soft masses of iron and manganese oxide; few fine faint grayish brown (10YR 5/2) iron depletions and few fine prominent yellowish brown (10YR 5/8) iron masses in the matrix; neutral; clear wavy boundary.
- C3—25 to 40 inches (64 to 102 cm); yellowish brown (10YR 5/4) silt loam; massive; very friable; many thin strata of very dark gray (10YR 3/1) and dark grayish brown (10YR 4/2) silt loam; few very dark grayish brown (10YR 3/2) wormcasts; few distinct dark grayish brown (10YR 4/2) organic coatings in root channels; few fine soft masses of iron and manganese oxide; few fine distinct strong brown (7.5YR 5/6) and few fine faint pale brown (10YR 6/3) iron masses in the matrix; neutral; clear wavy boundary.
- C4—40 to 60 inches (102 to 152 cm); brown (10YR 5/3) silt loam; massive; very friable; many thin strata of dark grayish brown (10YR 4/2), yellowish brown (10YR 5/4), and very dark gray (10YR 3/1) silt loam; few fine soft masses of iron and manganese oxide; few fine distinct yellowish brown (10YR 5/6) and few fine faint pale brown (10YR 6/3) iron masses in the matrix; neutral.

### Range in Characteristics

#### *Ap horizon:*

Hue—10YR  
Value—4 or 5  
Chroma—2 or 3  
Texture—silt loam

#### *C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 7  
Chroma—1 to 6  
Texture—silt loam

## **3333A—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded**

### *Setting*

*Landform:* Flood plains and alluvial plains

### *Map Unit Composition*

Wakeland and similar soils: 90 percent  
Dissimilar soils: 10 percent

### *Minor Components*

#### *Similar soils:*

- Soils that have more clay in the subsoil

- Soils that have more sand and less silt in the subsoil
- Soils that have a darker surface horizon

*Dissimilar soils:*

- The well drained Camden soils on terraces
- The poorly drained Birds and Sawmill soils on flood plains

***Properties and Qualities of the Wakeland Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

**W—Water**

- This map unit consists of natural bodies of water, such as ponds, lakes, and rivers.

# Use and Management of the Soils

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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, roadfill, and topsoil. 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.

## **Crops and Pasture**

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Soil Series and Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

### **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 (Olsen and others, 2000a and 2000b). Available yield data from nearby counties and results of field trials and demonstrations also are considered (Fehrenbacher and others, 1978).

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 (fig. 9), 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 Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### **Pasture and Hayland Interpretations**

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and pasture renovation also are important management practices.





Figure 9.—No-till practices leave crop residue on the surface and help to control erosion.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about forage yields other than those shown in the yields table.

## 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 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, 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, 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, forestland, or wildlife habitat.

The capability classification of the soils in this survey area is given in the section "Soil Series and Detailed Soil Map Units" and in the yields table.

## 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.

About 134,360 acres, or about 53 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 7. 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 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

## Hydric Soils

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 all 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, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation (fig. 10).

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, 2002). These criteria are used to identify map unit components that normally are 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, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time 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 are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

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.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units





Figure 10.—Wetland vegetation in an area of Fluvaquents.

dominantly made up of nonhydic soils may have inclusions of hydric soils in the lower positions on the landform. Table 8 lists the map units that include hydric soils, either as major components or as inclusions. The hydric soils listed in the table meet the definition of a hydric soil and 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, 2002).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folistels.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.

3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

## Forestland Productivity and Management

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.

### Forestland Productivity

In table 10, 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 or on the Internet (<http://soils.usda.gov>).

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.

### Forestland Management

In tables 11a through 11e, 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).

Rating class terms for seedling mortality are expressed as *low*, *moderate*, and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (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 or on the Internet (<http://soils.usda.gov>).

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.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

## Recreation

The soils of the survey area are rated in tables 12a and 12b 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 12a and 12b 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, soybeans, 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 bromegrass, timothy, orchardgrass, clover, alfalfa, wheatgrass, and birdsfoot trefoil.

*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, indiagrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, wheatgrass, and nightshade.

*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, poplar, box elder, birch, maple, green ash, willow, and American elm.

*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, cedar, and tamarack.

*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, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattails, prairie cordgrass, bluejoint grass, asters, and beggarticks.

*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, wildlife watering developments, beaver ponds, and other wildlife 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 Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, cottontail rabbit, 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, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, and white-tailed deer.

*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, bitterns, rails, kingfishers, muskrat, otter, 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 (fig. 11). 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*



**Figure 11.—Streambank stabilization practices help to control erosion along stream beds.**

*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, industrial, and recreational 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, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, 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 14a and 14b 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 15a and 15b 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 subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. 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, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. 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**

Tables 16a and 16b give information about the soils as potential sources of sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Sand* is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 16a, 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 are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand, the soil is considered a likely

source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand. A rating of *good* or *fair* means that the material is likely to be 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. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 16b, the soils are rated *good*, *fair*, or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

Tables 17a, 17b, and 17c give 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; aquifer-fed excavated ponds; constructing grassed waterways and surface drains; constructing terraces and diversions; tile drains and underground outlets; and irrigation. 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).

### Table 17a

*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.

**Table 17b**

*Grassed waterways and surface drains* are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity (fig. 12). Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways and surface drains. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

*Terraces and diversions* are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

*Tile drains and underground outlets* are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to the soil in its undisturbed condition and do not include consideration of current land use. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains.



**Figure 12.**—Grassed waterways and drop structures help to convey runoff from areas of cropland at a nonerosive rate.

**Table 17c**

*Irrigation* is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.





# Soil Properties

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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 Index Properties

Table 18 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 (fig. 13). "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, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

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

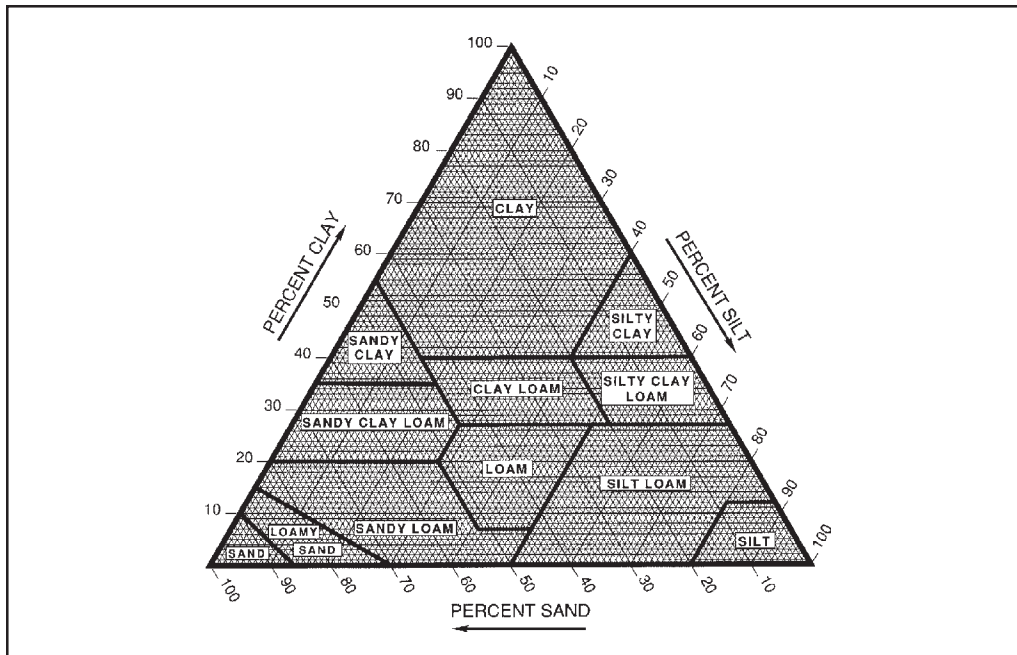


Figure 13.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

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 oven-dry 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 Properties

Table 19 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. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, 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 earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) 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* ( $K_{sat}$ ) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). 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 19, 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 (fig. 14).

*Erosion factors* are shown in table 19 as the K factor ( $K_w$  and  $K_f$ ) 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 six 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  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  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.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook" (USDA/NRCS, National Soil Survey Handbook).

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 20 shows estimates of some chemical 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.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.





**Figure 14.—Maintaining a cover crop in areas of the sandy Sparta soils helps to control erosion and improves soil structure and the content of organic matter.**

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*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.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

## Water Features

Table 21 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.

*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 21 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* of flooding 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). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

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 are 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.

*Water table* refers to a saturated zone in the soil. Table 21 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months*



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.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

## 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. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*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.



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# Glossary

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Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

**ABC soil.** A soil having an A, a B, and a C horizon.

**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.

**AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** A low, outspread mass of loose materials 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.

**Alpha,alpha-dipyridyl.** A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

**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.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction toward which a slope faces. Also called slope aspect.

**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 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

- 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.
- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Basal till.** Compact till deposited beneath the ice.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope** (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding plane.** A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.
- Bottom land.** An informal term loosely applied to various portions of a flood plain.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Calcium carbonate.** A common mineral in sediments and soils.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)



- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** See Terracettes.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- 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 depletions.** See Redoximorphic features.
- 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.
- Claypan.** A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- 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.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- 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.
- Concretions.** See Redoximorphic features.
- Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-

improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

- 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.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Coprogenous earth (sedimentary peat).** A type of limnic layer composed predominantly of fecal material derived from aquatic animals.
- Corrosion (geomorphology).** A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.
- Corrosion (soil survey interpretations).** 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.
- 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.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- 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.
- Cutbanks cave (in tables).** The walls of excavations tend to cave in or slough.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- 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.
- Dense layer (in tables).** A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

- Depression.** Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.
- 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.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.
- 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, surface.** Runoff, or surface flow of water, from an area.
- 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 contain 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 glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- 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.
- Earthy fill.** See Mine spoil.
- 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.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

- 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.
- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- 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.
- 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.
- 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.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.
- Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

- Flood plain.** The nearly level plain that borders a stream and is subject to flooding unless protected artificially.
- Flood-plain landforms.** A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.
- Flood-plain splay.** A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.
- Flood-plain step.** An essentially flat, terrace-like 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.
- Fluvial.** Of or pertaining to rivers or streams; produced by stream or river action.
- Footslope.** 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).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- 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.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Geosol.** A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. See Paleosol.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.



- 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.
- 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.
- Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground moraine.** An extensive, fairly even layer of till having an uneven or undulating surface.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Head slope** (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.
- 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.
- High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.
- Hill.** A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.
- 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.
- 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.
- L horizon.*—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.
- 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.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**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 cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluve.** A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general

direction. An elevated area between two drainageways that sheds water to those drainageways.

**Interfluve** (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

**Intermittent stream.** A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** See Redoximorphic features.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

**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.

**$K_{sat}$ .** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**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.

**Lake terrace.** A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

**Landscape.** A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**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.

- Loess.** Material transported and deposited by wind and consisting dominantly of silt-sized particles.
- Low strength.** The soil is not strong enough to support loads.
- Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.
- Masses.** See Redoximorphic features.
- Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.
- Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- 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.
- Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- 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.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- 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).
- Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric 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.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** See Redoximorphic features.

**Nose slope** (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

**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 matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low .....	less than 0.5 percent
Low .....	0.5 to 1.0 percent
Moderately low .....	1.0 to 2.0 percent
Moderate .....	2.0 to 4.0 percent
High .....	4.0 to 8.0 percent
Very high .....	more than 8.0 percent

**Outwash.** 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 plain.** An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Paleosol.** A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. See Geosol.

**Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**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.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

**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.

**Percolation.** The movement of water through the soil.

**Permafrost.** Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

**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:

Impermeable .....	less than 0.0015 inch
Very slow .....	0.0015 to 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.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**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.

**Plinthite.** The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Pore linings.** See Redoximorphic features.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**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.

**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.

**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:

Ultra acid .....	less than 3.5
Extremely acid .....	3.5 to 4.4
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

**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 skeletalans).
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.
- Relief.** The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.
- Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.
- Rill.** A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.
- Riser.** The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.
- Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
- Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
- 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 groundwater runoff or seepage flow from ground water.
- Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
- 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.
- Sandstone.** Sedimentary rock containing dominantly sand-sized 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.
- Saturated hydraulic conductivity ( $K_{sat}$ ).** 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.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- 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.
- Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
- 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.
- Shale.** Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.
- Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope** (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- 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.
- Slickensides** (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.
- Slope.** 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.
- Slope alluvium.** Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.
- Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.
- Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.
- Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.
- 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.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**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.

**Stone line.** In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

**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.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Strath terrace.** A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

**Stream terrace.** One of 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; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

**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).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce

a crop every year. Summer fallow is frequently practiced before planting winter grain.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**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.

**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 (conservation).** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**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.

**Terracettes.** Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

**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.”

**Thin layer (in tables).** Otherwise suitable soil material that is too thin for the specified use.

**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.

**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.

**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.

- Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- Tread.** The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.
- Tuff.** A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.
- Upland.** 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 fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
- Variagation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- 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 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.
- 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 but involving essentially no transport of the altered material.
- Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
- Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.
- Windthrow.** The uprooting and tipping over of trees by the wind.





# Tables

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Table 1.--Temperature and Precipitation  
(Recorded in the period 1971-2000 at Monmouth, Illinois)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
°F	°F	°F	°F	°F	Units	In	In	In		In	
January----	31.3	14.6	23.0	58	-18	0	1.62	0.73	2.38	4	8.7
February---	37.7	20.3	29.0	67	-12	2	1.72	.89	2.45	4	5.8
March-----	50.4	30.2	40.3	80	4	39	2.85	1.46	4.07	6	3.3
April-----	63.9	40.4	52.2	87	19	153	3.76	2.15	5.19	7	1.5
May-----	74.5	50.8	62.7	91	33	397	4.27	2.63	5.74	8	.0
June-----	83.1	60.1	71.6	96	44	650	4.26	2.43	5.88	6	.0
July-----	86.6	64.1	75.4	99	48	789	4.33	2.05	6.30	6	.0
August-----	84.4	61.7	73.1	97	46	713	4.01	1.97	5.79	5	.0
September--	77.7	53.7	65.7	94	33	468	3.45	1.47	5.12	5	.0
October----	65.6	43.1	54.3	86	22	188	2.97	1.60	4.18	5	.1
November---	49.2	31.4	40.3	74	8	30	2.74	1.28	4.01	5	2.3
December---	35.7	20.0	27.8	63	-10	3	2.32	1.24	3.28	5	6.8
Yearly:											
Average---	61.7	40.9	51.3	---	---	---	---	---	---	---	---
Extreme---	104	-25	---	99	-19	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,434	38.31	31.95	44.39	66	28.4

\* 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 (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall  
(Recorded in the period 1971-2000 at Monmouth, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
<b>Last freezing temperature in spring:</b>			
1 year in 10 later than--	Apr. 16	Apr. 20	May 1
2 years in 10 later than--	Apr. 10	Apr. 16	Apr. 27
5 years in 10 later than--	Mar. 31	Apr. 8	Apr. 18
<b>First freezing temperature in fall:</b>			
1 year in 10 earlier than--	Oct. 22	Oct. 8	Sept. 27
2 years in 10 earlier than--	Oct. 27	Oct. 14	Oct. 3
5 years in 10 earlier than--	Nov. 5	Oct. 25	Oct. 13

Table 3.--Growing Season  
(Recorded in the period 1971-2000 at Monmouth, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	200	180	155
8 years in 10	206	186	163
5 years in 10	218	199	177
2 years in 10	231	212	191
1 year in 10	237	219	199

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Ambraw-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
*Assumption-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Atlas-----	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Atterberry-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Beaucoup-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
Biggsville-----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
*Biggsville-----	Fine-silty, mixed, superactive, mesic Dystric Eutrudepts
Birds-----	Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents
Camden-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Coloma-----	Mixed, mesic Lamellic Udipsamments
Crescent-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Denrock-----	Fine, mixed, superactive, mesic Aquic Argiudolls
Dickinson-----	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
Dozaville-----	Fine-silty, mixed, superactive, mesic Fluventic Hapludolls
Dunbarton-----	Clayey, smectitic, mesic Lithic Hapludalfs
Edgington-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Edinburg-----	Fine, smectitic, mesic Vertic Argiaquolls
Elco-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Fayette-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Fluvaquents-----	Fine-silty, mixed, active, nonacid, mesic Typic Fluvaquents
Greenbush-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Hickory-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Joy-----	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Littleton-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Mannon-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Mt. Carroll-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Muscatune-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Niota-----	Fine, mixed, superactive, mesic Vertic Albaqualfs
Orion-----	Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents
Orthents-----	Fine-loamy, mixed, active, nonacid, mesic Typic Udorthents
Oscos-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Oscos-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Otter-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Port Byron-----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
*Port Byron-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Proctor-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Raddle-----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Radford-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Rozetta-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Sable-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Seaton-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Selma-----	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Shaffton-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls
Sparta-----	Sandy, mixed, mesic Entic Hapludolls
Stronghurst-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Thorp-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Tice-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Timula-----	Coarse-silty, mixed, superactive, mesic Typic Eutrudepts
Wabash-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Wakeland-----	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
8D2	Hickory silt loam, 10 to 18 percent slopes, eroded-----	15	*
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded-----	712	0.3
8F	Hickory silt loam, 18 to 35 percent slopes-----	3,701	1.5
8F3	Hickory clay loam, 18 to 35 percent slopes, severely eroded-----	838	0.3
8G	Hickory silt loam, 35 to 60 percent slopes-----	2,187	0.9
51A	Muscatune silt loam, 0 to 2 percent slopes-----	35,248	13.9
51B	Muscatune silt loam, 2 to 5 percent slopes-----	1,999	0.8
61A	Atterberry silt loam, 0 to 2 percent slopes-----	903	0.4
61B	Atterberry silt loam, 2 to 5 percent slopes-----	262	0.1
68A	Sable silty clay loam, 0 to 2 percent slopes-----	6,410	2.5
81A	Littleton silt loam, 0 to 2 percent slopes-----	1,015	0.4
86A	Osco silt loam, 0 to 2 percent slopes-----	162	*
86B	Osco silt loam, 2 to 5 percent slopes-----	10,685	4.2
86B2	Osco silt loam, 2 to 5 percent slopes, eroded-----	1,443	0.6
86C2	Osco silt loam, 5 to 10 percent slopes, eroded-----	7,237	2.9
86D2	Osco silt loam, 10 to 18 percent slopes, eroded-----	192	*
87A	Dickinson sandy loam, 0 to 2 percent slopes-----	3,670	1.4
87B	Dickinson sandy loam, 2 to 5 percent slopes-----	967	0.4
88A	Sparta loamy sand, 0 to 2 percent slopes-----	3,126	1.2
88B	Sparta loamy sand, 1 to 6 percent slopes-----	2,797	1.1
119E2	Elco silt loam, 18 to 25 percent slopes, eroded-----	56	*
125A	Selma loam, 0 to 2 percent slopes-----	885	0.3
134B	Camden silt loam, 2 to 5 percent slopes-----	22	*
148A	Proctor silt loam, 0 to 2 percent slopes-----	391	0.2
148B	Proctor silt loam, 2 to 5 percent slopes-----	164	*
206A	Thorp silt loam, 0 to 2 percent slopes-----	607	0.2
249A	Edinburg silty clay loam, 0 to 2 percent slopes-----	139	*
259C2	Assumption silt loam, 5 to 10 percent slopes, eroded-----	402	0.2
261A	Niota silt loam, 0 to 2 percent slopes-----	116	*
262A	Denrock silt loam, 0 to 2 percent slopes-----	195	*
268A	Mt. Carroll silt loam, 0 to 2 percent slopes-----	1,214	0.5
268B	Mt. Carroll silt loam, 2 to 5 percent slopes-----	1,076	0.4
271C2	Timula silt loam, 5 to 10 percent slopes, eroded-----	729	0.3
271D2	Timula silt loam, 10 to 18 percent slopes, eroded-----	370	0.1
272A	Edgington silt loam, 0 to 2 percent slopes-----	314	0.1
274A	Seaton silt loam, 0 to 2 percent slopes-----	1,581	0.6
274B	Seaton silt loam, 2 to 5 percent slopes-----	12,372	4.9
274C2	Seaton silt loam, 5 to 10 percent slopes, eroded-----	7,082	2.8
274C3	Seaton silt loam, 5 to 10 percent slopes, severely eroded-----	650	0.3
274D2	Seaton silt loam, 10 to 18 percent slopes, eroded-----	1,960	0.8
274D3	Seaton silt loam, 10 to 18 percent slopes, severely eroded-----	1,943	0.8
275A	Joy silt loam, 0 to 2 percent slopes-----	5,740	2.3
277B	Port Byron silt loam, 2 to 5 percent slopes-----	603	0.2
277C2	Port Byron silt loam, 5 to 10 percent slopes, eroded-----	168	*
278A	Stronghurst silt loam, 0 to 2 percent slopes-----	2,390	0.9
278B	Stronghurst silt loam, 2 to 5 percent slopes-----	228	*
279A	Rozetta silt loam, 0 to 2 percent slopes-----	423	0.2
279B	Rozetta silt loam, 2 to 5 percent slopes-----	5,800	2.3
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded-----	4,291	1.7
279C3	Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded-----	1,466	0.6
279D2	Rozetta silt loam, 10 to 18 percent slopes, eroded-----	132	*
280B	Fayette silt loam, 2 to 5 percent slopes-----	727	0.3
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded-----	885	0.3
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded-----	2,004	0.8
280D3	Fayette silty clay loam, 10 to 18 percent slopes, severely eroded-----	2,313	0.9
430A	Raddle silt loam, 0 to 2 percent slopes-----	4,348	1.7
430B	Raddle silt loam, 2 to 5 percent slopes-----	986	0.4
505G	Dunbarton silt loam, 18 to 60 percent slopes-----	208	*
671A	Biggsville silt loam, 0 to 2 percent slopes-----	645	0.3
671B	Biggsville silt loam, 2 to 5 percent slopes-----	685	0.3
671C2	Biggsville silt loam, 5 to 10 percent slopes, eroded-----	198	*
672A	Crescent loam, 0 to 2 percent slopes-----	2,340	0.9

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
672B	Crescent loam, 2 to 5 percent slopes-----	276	0.1
675A	Greenbush silt loam, 0 to 2 percent slopes-----	915	0.4
675B	Greenbush silt loam, 2 to 5 percent slopes-----	2,051	0.8
675C2	Greenbush silt loam, 5 to 10 percent slopes, eroded-----	670	0.3
678A	Mannon silt loam, 0 to 2 percent slopes-----	240	*
678B	Mannon silt loam, 2 to 5 percent slopes-----	637	0.3
689A	Coloma sand, 0 to 2 percent slopes-----	1,451	0.6
689B	Coloma sand, 1 to 7 percent slopes-----	12,318	4.9
689D	Coloma sand, 7 to 15 percent slopes-----	3,758	1.5
724D2	Rozetta-Elco silt loams, 10 to 18 percent slopes, eroded-----	459	0.2
802B	Orthents, loamy, undulating-----	138	*
864	Pits, quarries-----	162	*
936D2	Fayette-Hickory silt loams, 10 to 18 percent slopes, eroded-----	1,426	0.6
936D3	Fayette-Hickory complex, 18 to 35 percent slopes, severely eroded-----	937	0.4
936F	Fayette-Hickory silt loams, 18 to 35 percent slopes-----	330	0.1
936G	Fayette-Hickory silt loams, 35 to 60 percent slopes-----	883	0.3
937D2	Seaton-Hickory silt loams, 10 to 18 percent slopes, eroded-----	403	0.2
937D3	Seaton-Hickory complex, 10 to 18 percent slopes, severely eroded-----	130	*
937F	Seaton-Hickory silt loams, 18 to 35 percent slopes-----	1,401	0.6
937G	Seaton-Hickory silt loams, 35 to 60 percent slopes-----	8,389	3.3
943D3	Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded-----	2,851	1.1
943F2	Seaton-Timula silt loams, 18 to 35 percent slopes, eroded-----	1,221	0.5
943G	Seaton-Timula silt loams, 35 to 60 percent slopes-----	1,237	0.5
957D2	Elco-Atlas silt loams, 10 to 18 percent slopes, eroded-----	2,161	0.9
957D3	Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded-----	2,498	1.0
1083A	Wabash silty clay, undrained, 0 to 2 percent slopes, frequently flooded-----	617	0.2
1107A	Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded--	962	0.4
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded-----	523	0.2
3107+	Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash-----	484	0.2
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded-----	3,324	1.3
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded-----	79	*
3302A	Ambraw loam, 0 to 2 percent slopes, frequently flooded-----	293	0.1
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded-----	95	*
3334A	Birds silt loam, 0 to 2 percent slopes, frequently flooded-----	546	0.2
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded-----	602	0.2
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded-----	801	0.3
3646L	Fluvaquents, 0 to 2 percent slopes, frequently flooded, long duration-----	8,441	3.3
3725A	Otter-Lawson silt loams, 0 to 2 percent slopes, frequently flooded-----	9,382	3.7
7070A	Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded-----	1,592	0.6
7083A	Wabash silty clay, 0 to 2 percent slopes, rarely flooded-----	8,157	3.2
7107A	Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded-----	1,666	0.7
7183A	Shaffton loam, 0 to 2 percent slopes, rarely flooded-----	715	0.3
7284A	Tice silt loam, 0 to 2 percent slopes, rarely flooded-----	1,563	0.6
7302A	Ambraw clay loam, 0 to 2 percent slopes, rarely flooded-----	1,594	0.6
7451A	Lawson silt loam, 0 to 2 percent slopes, rarely flooded-----	471	0.2
7674A	Dozaville silt loam, 0 to 2 percent slopes, rarely flooded-----	983	0.4
W	Water-----	11,061	4.4
	Total-----	253,310	100.0

\* Less than 0.1 percent.



Table 6.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas.  
Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown  
on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
8D2: Hickory-----	3e	94	32	38	44	3.13	4.5
8D3: Hickory-----	4e	86	29	35	40	2.86	4.1
8F: Hickory-----	6e	---	---	---	---	2.79	4.0
8F3: Hickory-----	6e	---	---	---	---	2.80	4.0
8G: Hickory-----	7e	---	---	---	---	---	---
51A: Muscatune-----	1	180	57	68	94	5.42	8.0
51B: Muscatune-----	2e	178	56	67	93	5.37	7.9
61A: Atterberry-----	1	164	51	64	88	4.97	7.3
61B: Atterberry-----	2e	162	50	63	87	4.92	7.3
68A: Sable-----	2w	173	57	67	89	5.20	7.7
81A: Littleton-----	1	175	55	67	90	5.42	8.0
86A: Osco-----	1	172	54	68	92	6.22	9.2
86B: Osco-----	2e	170	53	67	91	6.16	9.1
86B2: Osco-----	2e	163	51	65	87	5.91	8.7
86C2: Osco-----	3e	160	50	63	86	5.78	8.3
86D2: Osco-----	3e	149	47	59	80	5.38	7.7
87A: Dickinson-----	2s	128	42	51	67	3.05	4.5
87B: Dickinson-----	2e	127	42	51	66	3.02	4.5

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
88A: Sparta-----	4s	107	37	45	52	3.62	5.3
88B: Sparta-----	4s	106	37	45	51	3.58	5.2
119E2: Elco-----	6e	---	---	---	---	2.96	4.3
125A: Selma-----	2w	157	51	62	80	4.75	7.0
134B: Camden-----	2e	148	46	57	77	4.25	6.3
148A: Proctor-----	2e	166	52	63	89	5.76	7.5
148B: Proctor-----	2e	164	51	62	88	5.70	8.3
206A: Thorp-----	2w	153	50	60	79	4.63	6.8
249A: Edinburg-----	3w	155	50	61	77	4.52	6.7
259C2: Assumption-----	3e	137	44	55	70	3.99	5.8
261A: Niota-----	2w	118	39	50	59	3.73	5.5
262A: Denrock-----	2w	141	45	58	73	3.84	5.7
268A: Mt. Carroll-----	1	165	52	63	84	5.54	8.2
268B: Mt. Carroll-----	2e	163	51	62	83	5.48	8.0
271C2: Timula-----	3e	130	42	49	61	3.15	4.6
271D2: Timula-----	4e	121	39	46	57	2.93	4.2
272A: Edgington-----	2w	150	49	59	76	4.75	7.0
274A: Seaton-----	1	150	46	57	76	4.03	5.9
274B: Seaton-----	2e	149	46	58	77	4.07	6.0
274C2: Seaton-----	3e	140	43	54	72	3.79	5.5

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
274C3: Seaton-----	4e	129	40	50	66	3.50	5.0
274D2: Seaton-----	3e	130	40	50	67	3.52	5.0
274D3: Seaton-----	4e	119	36	46	61	3.22	4.6
275A: Joy-----	1	175	55	68	93	5.42	8.0
277B: Port Byron-----	2e	175	54	67	93	6.27	9.2
277C2: Port Byron-----	3e	165	51	63	87	5.89	8.5
278A: Stronghurst-----	2w	154	48	60	78	4.75	7.0
278B: Stronghurst-----	2w	152	48	59	77	4.70	6.9
279A: Rozetta-----	1	148	46	59	76	4.75	7.0
279B: Rozetta-----	2e	147	46	58	75	4.70	6.9
279C2: Rozetta-----	3e	138	43	55	71	4.42	6.4
279C3: Rozetta-----	4e	127	40	51	65	4.10	5.8
279D2: Rozetta-----	3e	129	40	51	66	4.10	6.0
280B: Fayette-----	2e	149	47	59	76	4.70	6.9
280C2: Fayette-----	3e	140	44	56	72	4.42	6.4
280D2: Fayette-----	3e	131	41	52	67	4.13	6.0
280D3: Fayette-----	4e	118	37	47	61	3.80	5.3
430A: Raddle-----	1	170	53	66	87	5.88	8.7
430B: Raddle-----	2e	168	52	65	86	5.82	8.5
505G: Dunbarton-----	7e	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
671A: Biggsville-----	1	176	55	64	92	5.31	7.8
671B: Biggsville-----	2e	174	54	63	91	5.26	7.7
671C2: Biggsville-----	3e	164	51	60	86	4.94	7.1
672A: Crescent-----	1	138	42	57	88	5.30	8.8
672B: Crescent-----	2e	148	48	60	80	4.80	7.0
675A: Greenbush-----	1	166	52	63	87	4.86	7.2
675B: Greenbush-----	2e	164	51	62	86	4.81	7.1
675C2: Greenbush-----	3e	154	48	59	81	4.52	6.7
678A: Mannon-----	1	164	51	61	85	5.31	7.8
678B: Mannon-----	2e	162	50	60	84	5.26	7.7
689A: Coloma-----	4s	92	29	41	47	3.28	4.8
689B: Coloma-----	4s	86	27	38	44	3.05	4.4
689D: Coloma-----	6s	---	---	---	---	2.98	4.3
724D2----- Rozetta-Elco	3e	125	40	49	63	3.82	5.5
802B: Orthents, loamy----	2e	---	---	---	---	---	---
864. Pits, quarries							
936D2----- Fayette-Hickory	3e	117	37	47	57	3.73	5.4
936D3----- Fayette-Hickory	4e	106	34	43	52	3.39	4.9
936F----- Fayette-Hickory	6e	---	---	---	---	3.00	4.6
936G----- Fayette-Hickory	7e	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
937D2----- Seaton-Hickory	3e	116	37	45	57	3.38	4.8
937D3----- Seaton-Hickory	4e	105	34	41	52	3.07	4.4
937F----- Seaton-Hickory	6e	---	---	---	---	2.76	4.1
937G----- Seaton-Hickory	7e	---	---	---	---	---	---
943D3----- Seaton-Timula	6e	---	---	---	---	3.03	4.2
943F2----- Seaton-Timula	6e	---	---	---	---	2.71	3.8
943G----- Seaton-Timula	7e	---	---	---	---	---	---
957D2----- Elco----- Atlas-----	3e 4e	85	27	33	50	3.20	4.3
957D3----- Elco----- Atlas-----	4e 6e	84	27	33	40	2.39	3.9
1083A: Wabash-----	5w	---	---	---	---	---	---
1107A: Sawmill-----	5w	---	---	---	---	---	---
3074A: Radford-----	3w	150	48	---	---	4.47	6.6
3107+: Sawmill-----	3w	163	49	---	---	4.70	6.9
3107A: Sawmill-----	3w	153	50	---	---	4.70	6.9
3284A: Tice-----	3w	149	46	---	---	4.58	6.7
3302A: Ambraw-----	3w	124	42	---	---	4.08	6.0
3333A: Wakeland-----	3w	141	46	---	---	4.17	6.1
3334A: Birds-----	3w	127	41	---	---	3.97	5.9
3415A: Orion-----	3w	146	46	---	---	4.07	6.0
3451A: Lawson-----	3w	154	50	---	---	4.68	6.9

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
3646L: Fluvaquents-----	5w	---	---	---	---	---	---
3725A----- Otter-Lawson	3w	152	50	---	---	4.60	6.9
7070A: Beaucoup-----	2w	159	53	62	81	4.37	7.2
7083A: Wabash-----	3w	141	46	55	67	4.29	6.3
7107A: Sawmill-----	2w	170	54	64	87	5.20	7.7
7183A: Shaffton-----	1	140	46	54	72	4.63	6.8
7284A: Tice-----	2w	166	51	63	86	5.09	7.5
7302A: Ambraw-----	2w	138	45	55	68	4.52	6.7
7451A: Lawson-----	2w	171	55	66	87	5.20	7.7
7674A: Dozaville-----	2w	163	52	61	81	4.86	7.2

\* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.



Table 7.--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 under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
51A	Muscataune silt loam, 0 to 2 percent slopes
51B	Muscataune silt loam, 2 to 5 percent slopes
61A	Atterberry silt loam, 0 to 2 percent slopes (where drained)
61B	Atterberry silt loam, 2 to 5 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
81A	Littleton silt loam, 0 to 2 percent slopes
86A	Osco silt loam, 0 to 2 percent slopes
86B	Osco silt loam, 2 to 5 percent slopes
86B2	Osco silt loam, 2 to 5 percent slopes, eroded
87A	Dickinson sandy loam, 0 to 2 percent slopes
87B	Dickinson sandy loam, 2 to 5 percent slopes
125A	Selma loam, 0 to 2 percent slopes (where drained)
134B	Camden silt loam, 2 to 5 percent slopes
148A	Proctor silt loam, 0 to 2 percent slopes
148B	Proctor silt loam, 2 to 5 percent slopes
206A	Thorp silt loam, 0 to 2 percent slopes (where drained)
249A	Edinburg silty clay loam, 0 to 2 percent slopes (where drained)
261A	Niota silt loam, 0 to 2 percent slopes (where drained)
262A	Denrock silt loam, 0 to 2 percent slopes
268A	Mt. Carroll silt loam, 0 to 2 percent slopes
268B	Mt. Carroll silt loam, 2 to 5 percent slopes
272A	Edgington silt loam, 0 to 2 percent slopes (where drained)
274A	Seaton silt loam, 0 to 2 percent slopes
274B	Seaton silt loam, 2 to 5 percent slopes
275A	Joy silt loam, 0 to 2 percent slopes
277B	Port Byron silt loam, 2 to 5 percent slopes
278A	Stronghurst silt loam, 0 to 2 percent slopes (where drained)
278B	Stronghurst silt loam, 2 to 5 percent slopes (where drained)
279A	Rozetta silt loam, 0 to 2 percent slopes
279B	Rozetta silt loam, 2 to 5 percent slopes
280B	Fayette silt loam, 2 to 5 percent slopes
430A	Raddle silt loam, 0 to 2 percent slopes
430B	Raddle silt loam, 2 to 5 percent slopes
671A	Biggsville silt loam, 0 to 2 percent slopes
671B	Biggsville silt loam, 2 to 5 percent slopes
672A	Crescent loam, 0 to 2 percent slopes
672B	Crescent loam, 2 to 5 percent slopes
675A	Greenbush silt loam, 0 to 2 percent slopes
675B	Greenbush silt loam, 2 to 5 percent slopes
678A	Mannon silt loam, 0 to 2 percent slopes
678B	Mannon silt loam, 2 to 5 percent slopes
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107+	Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash (where drained and either protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3302A	Ambraw loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3334A	Birds silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7070A	Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7083A	Wabash silty clay, 0 to 2 percent slopes, rarely flooded (where drained)

Table 7.--Prime Farmland--Continued

Map symbol	Soil name
7107A	Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7183A	Shaffton loam, 0 to 2 percent slopes, rarely flooded
7284A	Tice silt loam, 0 to 2 percent slopes, rarely flooded
7302A	Ambraw clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7451A	Lawson silt loam, 0 to 2 percent slopes, rarely flooded
7674A	Dozaville silt loam, 0 to 2 percent slopes, rarely flooded

Table 8.--Hydric Soils

(Only map units that have hydric components are listed. See text for a description of hydric qualities and an explanation of the hydric criteria codes)

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
51A: Muscatune silt loam, 0 to 2 percent slopes	Muscatune Edgington Sable	Not hydric Hydric Hydric	ground moraine ground moraine depression	--- 2B3,3 2B3
51B: Muscatune silt loam, 2 to 5 percent slopes	Muscatune Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
61A: Atterberry silt loam, 0 to 2 percent slopes	Atterberry Sable	Not hydric Hydric	ground moraine depression	--- 2B3
61B: Atterberry silt loam, 2 to 5 percent slopes	Atterberry Sable	Not hydric Hydric	ground moraine depression	--- 2B3
68A: Sable silty clay loam, 0 to 2 percent slopes	Sable	Hydric	ground moraine	2B3
86A: Osco silt loam, 0 to 2 percent slopes	Osco Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
86B: Osco silt loam, 2 to 5 percent slopes	Osco Sable	Not hydric Hydric	ground moraine ground moraine, depression	--- 2B3
86B2: Osco silt loam, 2 to 5 percent slopes, eroded	Osco Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
86C2: Osco silt loam, 5 to 10 percent slopes, eroded	Osco Sable	Not hydric Hydric	ground moraine ground moraine, depression, drainageway	--- 2B3
88A: Sparta loamy sand, 0 to 2 percent slopes	Sparta Selma	Not hydric Hydric	stream terrace, terrace outwash plain	--- 2B3
88B: Sparta loamy sand, 1 to 6 percent slopes	Sparta Selma	Not hydric Hydric	stream terrace outwash plain	--- 2B3
125A: Selma loam, 0 to 2 percent slopes	Selma	Hydric	outwash plain	2B3
206A: Thorp silt loam, 0 to 2 percent slopes	Thorp	Hydric	depression	2B3
249A: Edinburg silty clay loam, 0 to 2 percent slopes	Edinburg	Hydric	depression, ground moraine	2B3

Table 8.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
261A: Niota silt loam, 0 to 2 percent slopes	Niota	Hydric	depression	2B3
262A: Denrock silt loam, 0 to 2 percent slopes	Denrock Niota	Not hydric Hydric	lake plain lake plain	--- 2B3
272A: Edgington silt loam, 0 to 2 percent slopes	Edgington	Hydric	ground moraine	2B3
274A: Seaton silt loam, 0 to 2 percent slopes	Seaton Edgington	Not hydric Hydric	ground moraine depression	--- 2B3
274B: Seaton silt loam, 2 to 5 percent slopes	Seaton Edgington	Not hydric Hydric	ground moraine depression	--- 2B3
275A: Joy silt loam, 0 to 2 percent slopes	Joy Sable	Not hydric Hydric	ground moraine depression	--- 2B3
277C2: Port Byron silt loam, 5 to 10 percent slopes, eroded	Port Byron Sawmill	Not hydric Hydric	ground moraine drainageway	--- 2B3
278A: Stronghurst silt loam, 0 to 2 percent slopes	Stronghurst Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
279B: Rozetta silt loam, 2 to 5 percent slopes	Rozetta Sable	Not hydric Hydric	ground moraine depression	--- 2B3
671A: Biggsville silt loam, 0 to 2 percent slopes	Biggsville Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
672A: Crescent loam, 0 to 2 percent slopes	Crescent Selma	Not hydric Hydric	outwash plain outwash plain	--- 3, 2B3
672B: Crescent loam, 2 to 5 percent slopes	Crescent Selma	Not hydric Hydric	outwash plain, terrace outwash plain	--- 2B3, 3
675A: Greenbush silt loam, 0 to 2 percent slopes	Greenbush Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
675B: Greenbush silt loam, 2 to 5 percent slopes	Greenbush Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3
802B: Orthents, loamy, undulating	Orthents Sable	Not hydric Hydric	ground moraine ground moraine	--- 2B3

Table 8.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
1083A: Wabash silty clay, undrained, 0 to 2 percent slopes, frequently flooded	Wabash	Hydric	flood plain	2B3
1107A: Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	Sawmill Otter	Hydric Hydric	flood plain flood plain	2B3,3 2B3,3
3074A: Radford silt loam, 0 to 2 percent slopes, frequently flooded	Radford Birds Sawmill	Not hydric Hydric Hydric	flood plain flood plain flood plain	--- 4,3,2B3 2B3
3107+: Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash	Sawmill	Hydric	flood plain	2B3
3107A: Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3
3284A: Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	Tice Birds	Not hydric Hydric	flood plain flood plain	--- 4,2B3,3
3302A: Ambraw loam, 0 to 2 percent slopes frequently flooded	Ambraw	Hydric	flood plain	2B3
3333A: Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland Birds Sawmill	Not hydric Hydric Hydric	flood plain depression swale	--- 2B3,4 2B3
3334A: Birds silt loam, 0 to 2 percent slopes, frequently flooded	Birds	Hydric	flood plain	4,3,2B3
3415A: Orion silt loam, 0 to 2 percent slopes, frequently flooded	Orion Beaucoup Sawmill	Not hydric Hydric Hydric	flood plain depression flood plain	--- 2B3 2B3
3451A: Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson Otter Birds Sawmill	Not hydric Hydric Hydric Hydric	flood plain swale flood plain swale	--- 2B3 2B3,3 2B3
3646L: Fluvaquents, 0 to 2 percent slopes, frequently flooded, long duration	Fluvaquents	Hydric	flood plain	2B3,4
3725A: Otter-Lawson silt loams, 0 to 2 percent slopes, frequently flooded	Otter Lawson	Hydric Not hydric	flood plain flood plain	2B3 ---

Table 8.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
7070A: Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded	Beaucoup	Hydric	flood plain	2B3
7083A: Wabash silty clay, 0 to 2 percent slopes, rarely flooded	Wabash	Hydric	flood plain	2B3
7107A: Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded	Sawmill	Hydric	flood plain	---
7183A: Shaffton loam, 0 to 2 percent slopes, rarely flooded	Shaffton	Not hydric	flood plain	---
	Ambraw	Hydric	flood plain	3
	Sawmill	Hydric	flood plain	---
	Wabash	Hydric	flood plain	2B3
7284A: Tice silt loam, 0 to 2 percent slopes, rarely flooded	Tice	Not hydric	flood plain	---
	Ambraw	Hydric	flood plain	---
	Beaucoup	Hydric	depression	2B3
	Wabash	Hydric	flood plain	2B3
7302A: Ambraw clay loam, 0 to 2 percent slopes, rarely flooded	Ambraw	Hydric	flood plain	---
7451A: Lawson silt loam, 0 to 2 percent slopes, rarely flooded	Lawson	Not hydric	flood plain	---
	Beaucoup	Hydric	flood plain	2B3
	Sawmill	Hydric	flood plain	---
7674A: Dozaville silt loam, 0 to 2 percent slopes, rarely flooded	Dozaville	Not hydric	flood plain	---
	Ambraw	Hydric	flood plain	---
	Sawmill	Hydric	flood plain	---

Table 9.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8D2: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8D3: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8F: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8F3: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8G: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
51A: Muscatune-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
51B: Muscatune-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
61A: Atterberry-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
61B: Atterberry-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
68A: Sable-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
81A: Littleton-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
86A: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86B: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86B2: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
86C2: Osc-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86D2: Osc-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
87A: Dickinson-----	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar-----	---
87B: Dickinson-----	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar-----	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
88A: Sparta-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateteleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
88B: Sparta-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateteleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
119E2: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
125A: Selma-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
134B: Camden-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
148A: Proctor-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
148B: Proctor-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
206A: Thorp-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
249A: Edinburg-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
259C2: Assumption-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
261A: Niota-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
262A: Denrock-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
268A: Mt. Carroll-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
268B: Mt. Carroll-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
271C2: Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
271D2: Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
272A: Edgington-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
274A: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
274B: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
274C2: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
274C3: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
274D2: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
274D3: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
275A: Joy-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
277B: Port Byron-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
277C2: Port Byron-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
278A: Stronghurst-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
278B: Stronghurst-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
279A: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
279B: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279C2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279C3: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279D2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
280B: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280C2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280D2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280D3: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
430A: Raddle-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
430B: Raddle-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
505G: Dunbarton-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, green ash, thornless honeylocust	---	---
671A: Biggsville-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
671B: Biggsville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
671C2: Biggsville-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
672A: Crescent-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
672B: Crescent-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
675A: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
675B: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
675C2: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
678A: Mannon-----	Common winterberry, coralberry, gray dogwood, mapleleaf viburnum, redosier dogwood	American hazelnut, American plum, blackhaw, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern white- cedar, shadbush	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
678B: Mannon-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
689A: Coloma-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateteleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
689B: Coloma-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateteleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
689D: Coloma-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternatleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
724D2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
802B. Orthents, loamy					
864. Pits, quarries					

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
936D2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
936D3: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
936F: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
936G: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
937D2: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
937D3: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
937F: Seaton-----	---	American plum, black hawthorn, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern white- cedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, imperial Carolina poplar, pin oak
Hickory-----	---	American plum, black hawthorn, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern white- cedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, imperial Carolina poplar, pin oak
937G: Seaton-----	---	American plum, black hawthorn, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern white- cedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, imperial Carolina poplar, pin oak
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
943D3: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
943D3: Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
943F2: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
943G: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
943G: Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
957D2: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Atlas-----	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce-----	Carolina poplar
957D3: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
957D3: Atlas-----	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce-----	Carolina poplar
1083A: Wabash-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
1107A: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3074A: Radford-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107+: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107A: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3284A: Tice-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3302A: Ambraw-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3333A: Wakeland-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak



Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3334A: Birds-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3415A: Orion-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3451A: Lawson-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3646L: Fluvaquents-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3725A: Otter-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Lawson-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7070A: Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7083A: Wabash-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7107A: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7183A: Shaffton-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7284A: Tice-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7302A: Ambraw-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7451A: Lawson-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7674A: Dozaville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Forestland Productivity

(Only the soils commonly used for production of commercial trees are listed)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
8D2, 8D3, 8F, 8F3, 8G: Hickory-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	95	100	
	White oak-----	85	72	
	Bitternut hickory---	---	---	
	Black oak-----	---	---	
	Green ash-----	---	---	
61A, 61B: Atterberry-----	Northern red oak----	70	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
88A, 88B: Sparta-----	Northern red oak----	70	57	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple, red pine, shortleaf pine
	Jack pine-----	---	---	
	Eastern white pine--	---	---	
	Red pine-----	---	---	
119E2: Elco-----	Northern red oak----	85	72	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	White oak-----	85	72	
	Black walnut-----	---	---	
134B: Camden-----	Green ash-----	76	72	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Northern red oak----	85	72	
	Sweetgum-----	80	86	
	Tuliptree-----	95	100	
	White oak-----	85	72	
261A: Niota-----	Pin oak-----	80	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
	Tuliptree-----	80	72	
	White oak-----	65	43	
	Green ash-----	---	---	

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
268A, 268B: Mt. Carroll-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
271C2, 271D2: Timula-----	White oak-----	70	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Bur oak-----	---	---	
	Northern red oak----	---	---	
	Green ash-----	---	---	
274A, 274B, 274C2, 274C3, 274D2, 274D3: Seaton-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
278A, 278B: Stronghurst-----	Northern red oak----	70	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
279A, 279B, 279C2, 279C3, 279D2: Rozetta-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	



Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
280B, 280C2, 280D2, 280D3:				
Fayette-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
505G:				
Dunbarton-----	Northern red oak----	61	57	Bur oak, chinkapin oak, eastern redcedar, green ash, honeylocust
	Black oak-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
675A, 675B, 675C2:				
Greenbush-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
678A, 678B:				
Mannon-----	White oak-----	80	57	Black walnut, eastern white pine, green ash, northern red oak, white oak
	Northern red oak----	80	57	
	Black walnut-----	---	---	
689A, 689B, 689D:				
Coloma-----	Eastern white pine--	85	200	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple, red pine, shortleaf pine
	Jack pine-----	68	100	
	Red pine-----	78	143	
	White oak-----	70	72	
724D2:				
Rozetta-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
724D2:				
Elco-----	Northern red oak----	85	72	Eastern cottonwood eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	White oak-----	85	72	
	Black walnut-----	---	---	
936D2, 936D3, 936F, 936G:				
Fayette-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
Hickory-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	95	100	
	White oak-----	85	72	
	Bitternut hickory---	---	---	
	Black oak-----	---	---	
	Green ash-----	---	---	
937D2, 937D3, 937F, 937G:				
Seaton-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
Hickory-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	Tuliptree-----	95	100	
	White oak-----	85	72	
	Bitternut hickory---	---	---	
	Black oak-----	---	---	
	Green ash-----	---	---	

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
943D3, 943F2, 943G: Seaton-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak pecan, pin oak, tuliptree, white oak
	Tuliptree-----	90	86	
	White oak-----	80	57	
	Black walnut-----	---	---	
Timula-----	White oak-----	70	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak pecan, pin oak, tuliptree, white oak
	Bur oak-----	---	---	
	Northern red oak----	---	---	
	Green ash-----	---	---	
957D2, 957D3: Elco-----	Northern red oak----	85	72	Eastern cottonwood eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
	White oak-----	85	72	
	Black walnut-----	---	---	
Atlas-----	Bur oak-----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash
	Northern red oak----	70	57	
	White oak-----	70	57	
	Green ash-----	---	---	
1083A: Wabash-----	Silver maple-----	75	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
1107A: Sawmill-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
	Sweetgum-----	---	---	
	American sycamore---	---	---	
	Cherrybark oak-----	---	---	
	Eastern cottonwood--	---	---	

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
3074A: Radford-----	Pin oak-----	96	72	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
	Sweetgum-----	86	100	
	Tuliptree-----	90	86	
	White ash-----	---	---	
	Eastern cottonwood--	---	---	
3107+, 3107A: Sawmill-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
	Sweetgum-----	---	---	
	American sycamore---	---	---	
	Cherrybark oak-----	---	---	
	Eastern cottonwood--	---	---	
3284A: Tice-----	Pin oak-----	96	72	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
	Sweetgum-----	86	100	
	Tuliptree-----	90	86	
	White ash-----	---	---	
	Eastern cottonwood--	---	---	
3302A: Ambraw-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
3333A: Wakeland-----	Eastern cottonwood--	99	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
	Pin oak-----	90	---	
3334A: Birds-----	Pin oak-----	76	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum, tamarack

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
3415A: Orion-----	Silver maple----- White ash----- Red maple-----	80 --- ---	29 --- ---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
3451A: Lawson-----	Silver maple----- White ash-----	70 ---	29 ---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
3646L: Fluvaquents-----	Pin oak-----	76	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
3725A: Otter-----	Silver maple-----	94	43	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
Lawson-----	Silver maple----- White ash-----	70 ---	29 ---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
7070A: Beaucoup-----	Eastern cottonwood-- Pin oak----- Sweetgum----- American sycamore-- Cherrybark oak-----	100 90 --- --- ---	129 72 --- --- ---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum, tamarack
7083A: Wabash-----	Silver maple-----	75	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum, tamarack

Table 10.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
7107A: Sawmill-----	Pin oak----- Sweetgum----- American sycamore--- Cherrybark oak----- Eastern cottonwood--	90 --- --- --- ---	72 --- --- --- ---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum
7183A: Shaffton-----	Northern red oak--- Tuliptree----- Sugar maple----- White ash----- White oak----- Black cherry----- Black walnut-----	86 96 --- --- --- --- ---	72 100 --- --- --- --- ---	Black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
7284A: Tice-----	Pin oak----- Eastern cottonwood-- Green ash----- White ash-----	96 --- --- ---	72 --- --- ---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
7302A: Ambraw-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum, tamarack
7451A: Lawson-----	Silver maple----- White ash-----	70 ---	29 ---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak
7674A: Dozaville-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak

Table 11a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Only the soils commonly used for production of commercial trees are listed. 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	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
8D2: Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8D3: Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8F: Hickory-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8F3: Hickory-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8G: Hickory-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
61A: Atterberry-----	Moderate Low strength	0.50	Moderately suited Wetness Low strength	0.50 0.50	Severe Low strength	1.00
61B: Atterberry-----	Moderate Low strength	0.50	Moderately suited Wetness Low strength	0.50 0.50	Severe Low strength	1.00
88A: Sparta-----	Moderate Sandiness	0.50	Moderately suited Sandiness	0.50	Moderate Low strength	0.50
88B: Sparta-----	Moderate Sandiness	0.50	Moderately suited Sandiness	0.50	Moderate Low strength	0.50
119E2: Elco-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
134B: Camden-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00



Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
261A: Niota-----	Moderate Low strength	0.50	Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50	Severe Low strength	1.00
268A: Mt. Carroll-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
268B: Mt. Carroll-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
271C2: Timula-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
271D2: Timula-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
274A: Seaton-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
274B: Seaton-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
274C2: Seaton-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
274C3: Seaton-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
274D2: Seaton-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
274D3: Seaton-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
278A: Stronghurst-----	Moderate Low strength	0.50	Moderately suited Wetness Low strength	0.50 0.50	Severe Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
278B: Stronghurst-----	Moderate Low strength	0.50	Moderately suited Wetness Low strength	0.50 0.50	Severe Low strength	1.00
279A: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
279B: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
279C2: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
279C3: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
279D2: Rozetta-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280B: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
280C2: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
280D2: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280D3: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
505G: Dunbarton-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
675A: Greenbush-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
675B: Greenbush-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
675C2: Greenbush-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
678A: Mannon-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
678B: Mannon-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
689A: Coloma-----	Moderate Sandiness	0.50	Moderately suited Sandiness	0.50	Moderate Low strength	0.50
689B: Coloma-----	Moderate Sandiness	0.50	Moderately suited Sandiness	0.50	Moderate Low strength	0.50
689D: Coloma-----	Moderate Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderate Low strength	0.50
724D2: Rozetta-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Elco-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
936D2: Fayette-----	Slight		Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
936D3: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
936F: Fayette-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
936F: Hickory-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
936G: Fayette-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
937D2: Seaton-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
937D3: Seaton-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
937F: Seaton-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
937G: Seaton-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
943D3: Seaton-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Timula-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
943F2:						
Seaton-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Timula-----	Moderate Slope	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
943G:						
Seaton-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Timula-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
957D2:						
Elco-----	Slight		Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Atlas-----	Moderate Stickiness/slope Low strength	0.50 0.50	Poorly suited Slope Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00
957D3:						
Elco-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Atlas-----	Slight		Poorly suited Slope Wetness Low strength	1.00 0.50 0.50	Severe Low strength	1.00
1083A:						
Wabash-----	Severe Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited Ponding Flooding Wetness Stickiness; high plasticity index Low strength	1.00 1.00 1.00 0.50 0.50	Severe Low strength	1.00
1107A:						
Sawmill-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe Low strength	1.00
3074A:						
Radford-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength Wetness	1.00 0.50 0.50	Severe Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
3107+: Sawmill-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Wetness Low strength	 1.00 0.50 0.50	Severe Low strength	 1.00
3107A: Sawmill-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Ponding Flooding Wetness Low strength	 1.00 1.00 1.00 0.50	Severe Low strength	 1.00
3284A: Tice-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Low strength Wetness	 1.00 0.50 0.50	Severe Low strength	 1.00
3302A: Ambraw-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Wetness Ponding Low strength	 1.00 1.00 0.50 0.50	Severe Low strength	 1.00
3333A: Wakeland-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Wetness Low strength	 1.00 0.50 0.50	Severe Low strength	 1.00
3334A: Birds-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Wetness Low strength	 1.00 1.00 0.50	Severe Low strength	 1.00
3415A: Orion-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Low strength Wetness	 1.00 0.50 0.50	Severe Low strength	 1.00
3451A: Lawson-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Low strength Wetness	 1.00 0.50 0.50	Severe Low strength	 1.00
3646L: Fluvaquents-----	Severe Flooding Wetness Low strength	 1.00 1.00 0.50	Poorly suited Ponding Flooding Wetness Low strength	 1.00 1.00 1.00 0.50	Severe Low strength Wetness	 1.00 0.50

Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
3725A:						
Otter-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
Lawson-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
7070A:						
Beaucoup-----	Moderate		Poorly suited		Severe	
	Low strength	0.50	Wetness	1.00	Low strength	1.00
			Ponding	0.50		
			Low strength	0.50		
7083A:						
Wabash-----	Moderate		Poorly suited		Severe	
	Stickiness/slope	0.50	Wetness	1.00	Low strength	1.00
	Low strength	0.50	Ponding	0.50		
			Stickiness; high plasticity index	0.50		
			Low strength	0.50		
7107A:						
Sawmill-----	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Ponding	0.50		
			Low strength	0.50		
7183A:						
Shaffton-----	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
7284A:						
Tice-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
7302A:						
Ambraw-----	Moderate		Poorly suited		Severe	
	Low strength	0.50	Wetness	1.00	Low strength	1.00
			Ponding	0.50		
			Low strength	0.50		
7451A:						
Lawson-----	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		



Table 11a.--Forestland Management--Continued

Map symbol and soil name	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
7674A: Dozaville-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 11b.--Forestland 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	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
8D2: Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
8D3: Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
8F: Hickory-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
8F3: Hickory-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
8G: Hickory-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
51A: Muscatune-----	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
51B: Muscatune-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Wetness	0.50 0.50
61A: Atterberry-----	Slight		Slight		Moderately suited Wetness Low strength	0.50 0.50
61B: Atterberry-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Wetness Low strength	0.50 0.50
68A: Sable-----	Slight		Slight		Poorly suited Wetness Ponding Low strength	1.00 0.50 0.50
81A: Littleton-----	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
86A: Osco-----	Slight		Slight		Moderately suited Low strength	0.50
86B: Osco-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
86B2: Osco-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
86C2: Osco-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
86D2: Osco-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
87A: Dickinson-----	Slight		Slight		Well suited	
87B: Dickinson-----	Slight		Slight		Well suited	
88A: Sparta-----	Slight		Slight		Moderately suited Sandiness	0.50
88B: Sparta-----	Slight		Slight		Moderately suited Sandiness	0.50
119E2: Elco-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
125A: Selma-----	Slight		Slight		Poorly suited Wetness Ponding Low strength	1.00 0.50 0.50
134B: Camden-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
148A: Proctor-----	Slight		Slight		Moderately suited Low strength	0.50
148B: Proctor-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
206A: Thorp-----	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
249A: Edinburg-----	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
259C2: Assumption-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
261A: Niota-----	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
262A: Denrock-----	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
268A: Mt. Carroll-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
268B: Mt. Carroll-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
271C2: Timula-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
271D2: Timula-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
272A: Edgington-----	Slight		Slight		Poorly suited Ponding Wetness Low strength	1.00 1.00 0.50
274A: Seaton-----	Slight		Slight		Moderately suited Low strength	0.50
274B: Seaton-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
274C2: Seaton-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
274C3: Seaton-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
274D2: Seaton-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
274D3: Seaton-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
275A: Joy-----	Slight		Slight		Moderately suited Low strength Wetness	0.50 0.50
277B: Port Byron-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
277C2: Port Byron-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
278A: Stronghurst-----	Slight		Slight		Moderately suited Wetness Low strength	0.50 0.50
278B: Stronghurst-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Wetness Low strength	0.50 0.50
279A: Rozetta-----	Slight		Slight		Moderately suited Low strength	0.50
279B: Rozetta-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
279C2: Rozetta-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
279C3: Rozetta-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
279D2: Rozetta-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
280B: Fayette-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
280C2: Fayette-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
280D2: Fayette-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
280D3: Fayette-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
430A: Raddle-----	Slight		Slight		Moderately suited Low strength	0.50
430B: Raddle-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
505G: Dunbarton-----	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
671A: Biggsville-----	Slight		Slight		Moderately suited Low strength	0.50
671B: Biggsville-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
671C2: Biggsville-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
672A: Crescent-----	Slight		Slight		Moderately suited Low strength	0.50
672B: Crescent-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
675A: Greenbush-----	Slight		Slight		Moderately suited Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
675B: Greenbush-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
675C2: Greenbush-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength Slope	0.50 0.50
678A: Mannon-----	Slight		Slight		Moderately suited Low strength	0.50
678B: Mannon-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
689A: Coloma-----	Slight		Slight		Moderately suited Sandiness	0.50
689B: Coloma-----	Slight		Slight		Moderately suited Sandiness	0.50
689D: Coloma-----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
724D2: Rozetta-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Elco-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
802B: Orthents, loamy----	Slight		Moderate Slope/erodibility	0.50	Moderately suited Low strength	0.50
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
936D3: Fayette-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50



Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
936D3: Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
936F: Fayette-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
936G: Fayette-----	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
937D2: Seaton-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
937D3: Seaton-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
937F: Seaton-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
937G: Seaton-----	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
943D3: Seaton-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Timula-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
943F2: Seaton-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Timula-----	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
943G: Seaton-----	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Timula-----	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
957D2: Elco-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Atlas-----	Slight		Severe Slope/erodibility	0.95	Poorly suited Slope Wetness Low strength	1.00 0.50 0.50
957D3: Elco-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Atlas-----	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Wetness Low strength	1.00 0.50 0.50
1083A: Wabash-----	Slight		Slight		Poorly suited Ponding Flooding Wetness Stickiness; high plasticity index Low strength	1.00 1.00 1.00 0.50 0.50
1107A: Sawmill-----	Slight		Slight		Poorly suited Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
3074A: Radford-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3107+: Sawmill-----	Slight		Slight		Poorly suited Flooding	1.00
					Wetness	0.50
					Low strength	0.50
3107A: Sawmill-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3284A: Tice-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3302A: Ambraw-----	Slight		Slight		Poorly suited Flooding	1.00
					Wetness	1.00
					Ponding	0.50
					Low strength	0.50
3333A: Wakeland-----	Slight		Slight		Poorly suited Flooding	1.00
					Wetness	0.50
					Low strength	0.50
3334A: Birds-----	Slight		Slight		Poorly suited Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3415A: Orion-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3451A: Lawson-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Wetness	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
3646L: Fluvaquents-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3725A: Otter-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
Lawson-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Wetness	0.50
7070A: Beaucoup-----	Slight		Slight		Poorly suited Wetness	1.00
					Ponding	0.50
					Low strength	0.50
7083A: Wabash-----	Slight		Slight		Poorly suited Wetness	1.00
					Ponding	0.50
					Stickiness; high plasticity index	0.50
					Low strength	0.50
7107A: Sawmill-----	Slight		Slight		Moderately suited Wetness	0.50
					Ponding	0.50
					Low strength	0.50
7183A: Shaffton-----	Slight		Slight		Moderately suited Low strength	0.50
					Wetness	0.50
7284A: Tice-----	Slight		Slight		Moderately suited Low strength	0.50
					Wetness	0.50
7302A: Ambraw-----	Slight		Slight		Poorly suited Wetness	1.00
					Ponding	0.50
					Low strength	0.50
7451A: Lawson-----	Slight		Slight		Moderately suited Low strength	0.50
					Wetness	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	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
7674A: Dozaville-----	Slight		Slight		Moderately suited Low strength	0.50

Table 11c.--Forestland 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	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
8D2: Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
8D3: Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
8F: Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
8F3: Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
8G: Hickory-----	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
51A: Muscatune-----	Well suited		Well suited		Moderately suited Low strength	0.50
51B: Muscatune-----	Well suited		Well suited		Moderately suited Low strength	0.50
61A: Atterberry-----	Well suited		Well suited		Moderately suited Low strength	0.50
61B: Atterberry-----	Well suited		Well suited		Moderately suited Low strength	0.50
68A: Sable-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
81A: Littleton-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
86A: Osc-----	Well suited		Well suited		Moderately suited Low strength	0.50
86B: Osc-----	Well suited		Well suited		Moderately suited Low strength	0.50
86B2: Osc-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
86C2: Osc-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
86D2: Osc-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
87A: Dickinson-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Well suited	
87B: Dickinson-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Well suited	
88A: Sparta-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
88B: Sparta-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
119E2: Elco-----	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75	Moderately suited Low strength Slope	0.50
125A: Selma-----	Well suited		Well suited		Moderately suited Low strength	0.50
134B: Camden-----	Well suited		Well suited		Moderately suited Low strength	0.50
148A: Proctor-----	Well suited		Well suited		Moderately suited Low strength	0.50
148B: Proctor-----	Well suited		Well suited		Moderately suited Low strength	0.50



Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
206A: Thorp-----	Well suited		Well suited		Moderately suited Low strength	0.50
249A: Edinburg-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
259C2: Assumption-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
261A: Niota-----	Well suited		Well suited		Moderately suited Low strength	0.50
262A: Denrock-----	Well suited		Well suited		Moderately suited Low strength	0.50
268A: Mt. Carroll-----	Well suited		Well suited		Moderately suited Low strength	0.50
268B: Mt. Carroll-----	Well suited		Well suited		Moderately suited Low strength	0.50
271C2: Timula-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
271D2: Timula-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
272A: Edgington-----	Well suited		Well suited		Moderately suited Low strength	0.50
274A: Seaton-----	Well suited		Well suited		Moderately suited Low strength	0.50
274B: Seaton-----	Well suited		Well suited		Moderately suited Low strength	0.50
274C2: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
274C3: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
274D2: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
274D3: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
275A: Joy-----	Well suited		Well suited		Moderately suited Low strength	0.50
277B: Port Byron-----	Well suited		Well suited		Moderately suited Low strength	0.50
277C2: Port Byron-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
278A: Stronghurst-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
278B: Stronghurst-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279A: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279B: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279C2: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
279C3: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
279D2: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
280B: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
280C2: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
280D2: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
280D3: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
430A: Raddle-----	Well suited		Well suited		Moderately suited Low strength	0.50
430B: Raddle-----	Well suited		Well suited		Moderately suited Low strength	0.50
505G: Dunbarton-----	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50
671A: Biggsville-----	Well suited		Well suited		Moderately suited Low strength	0.50
671B: Biggsville-----	Well suited		Well suited		Moderately suited Low strength	0.50
671C2: Biggsville-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
672A: Crescent-----	Well suited		Well suited		Moderately suited Low strength	0.50
672B: Crescent-----	Well suited		Well suited		Moderately suited Low strength	0.50
675A: Greenbush-----	Well suited		Well suited		Moderately suited Low strength	0.50
675B: Greenbush-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
675C2: Greenbush-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
678A: Mannon-----	Well suited		Well suited		Moderately suited Low strength	0.50
678B: Mannon-----	Well suited		Well suited		Moderately suited Low strength	0.50
689A: Coloma-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
689B: Coloma-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
689D: Coloma-----	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
724D2: Rozetta-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Elco-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
802B: Orthents, loamy----	Well suited		Well suited		Moderately suited Low strength	0.50
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
936D3: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
936D3: Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
936F: Fayette-----	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
936G: Fayette-----	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
937D2: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
937D3: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
937F: Seaton-----	Well suited		Unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Hickory-----	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
937G: Seaton-----	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
937G: Hickory-----	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
943D3: Seaton-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Timula-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
943F2: Seaton-----	Well suited		Unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Timula-----	Well suited		Unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
943G: Seaton-----	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Timula-----	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
957D2: Elco-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Atlas-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
957D3: Elco-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Atlas-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
1083A: Wabash-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
1107A: Sawmill-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3074A: Radford-----	Well suited		Well suited		Moderately suited Low strength	0.50
3107+: Sawmill-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3107A: Sawmill-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3284A: Tice-----	Well suited		Well suited		Moderately suited Low strength	0.50
3302A: Ambraw-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3333A: Wakeland-----	Well suited		Well suited		Moderately suited Low strength	0.50
3334A: Birds-----	Well suited		Well suited		Moderately suited Low strength	0.50
3415A: Orion-----	Well suited		Well suited		Moderately suited Low strength	0.50
3451A: Lawson-----	Well suited		Well suited		Moderately suited Low strength	0.50
3646L: Fluvaquents-----	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness Low strength	1.00 0.50
3725A: Otter-----	Well suited		Well suited		Moderately suited Low strength	0.50
Lawson-----	Well suited		Well suited		Moderately suited Low strength	0.50
7070A: Beaucoup-----	Well suited		Well suited		Moderately suited Low strength	0.50



Table 11c.--Forestland Management--Continued

Map symbol and soil name	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
7083A: Wabash-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50
7107A: Sawmill-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
7183A: Shaffton-----	Well suited		Well suited		Moderately suited Low strength	0.50
7284A: Tice-----	Well suited		Well suited		Moderately suited Low strength	0.50
7302A: Ambraw-----	Well suited		Well suited		Moderately suited Low strength	0.50
7451A: Lawson-----	Well suited		Well suited		Moderately suited Low strength	0.50
7674A: Dozaville-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11d.--Forestland 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	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Well suited		Well suited	
8D3: Hickory-----	Well suited		Well suited	
8F: Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
8F3: Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
8G: Hickory-----	Unsuited Slope	1.00	Unsuited Slope	1.00
51A: Muscatune-----	Well suited		Well suited	
51B: Muscatune-----	Well suited		Well suited	
61A: Atterberry-----	Well suited		Well suited	
61B: Atterberry-----	Well suited		Well suited	
68A: Sable-----	Well suited		Well suited	
81A: Littleton-----	Well suited		Well suited	
86A: Osco-----	Well suited		Well suited	
86B: Osco-----	Well suited		Well suited	
86B2: Osco-----	Well suited		Well suited	
86C2: Osco-----	Well suited		Well suited	
86D2: Osco-----	Well suited		Well suited	
87A: Dickinson-----	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
87B: Dickinson-----	Well suited		Well suited	
88A: Sparta-----	Well suited		Well suited	
88B: Sparta-----	Well suited		Well suited	
119E2: Elco-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
125A: Selma-----	Well suited		Well suited	
134B: Camden-----	Well suited		Well suited	
148A: Proctor-----	Well suited		Well suited	
148B: Proctor-----	Well suited		Well suited	
206A: Thorp-----	Well suited		Well suited	
249A: Edinburg-----	Well suited		Well suited	
259C2: Assumption-----	Well suited		Well suited	
261A: Niota-----	Well suited		Well suited	
262A: Denrock-----	Well suited		Well suited	
268A: Mt. Carroll-----	Well suited		Well suited	
268B: Mt. Carroll-----	Well suited		Well suited	
271C2: Timula-----	Well suited		Well suited	
271D2: Timula-----	Well suited		Well suited	
272A: Edgington-----	Well suited		Well suited	
274A: Seaton-----	Well suited		Well suited	
274B: Seaton-----	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
274C2: Seaton-----	Well suited		Well suited	
274C3: Seaton-----	Well suited		Well suited	
274D2: Seaton-----	Well suited		Well suited	
274D3: Seaton-----	Well suited		Well suited	
275A: Joy-----	Well suited		Well suited	
277B: Port Byron-----	Well suited		Well suited	
277C2: Port Byron-----	Well suited		Well suited	
278A: Stronghurst-----	Well suited		Well suited	
278B: Stronghurst-----	Well suited		Well suited	
279A: Rozetta-----	Well suited		Well suited	
279B: Rozetta-----	Well suited		Well suited	
279C2: Rozetta-----	Well suited		Well suited	
279C3: Rozetta-----	Well suited		Well suited	
279D2: Rozetta-----	Well suited		Well suited	
280B: Fayette-----	Well suited		Well suited	
280C2: Fayette-----	Well suited		Well suited	
280D2: Fayette-----	Well suited		Well suited	
280D3: Fayette-----	Well suited		Well suited	
430A: Raddle-----	Well suited		Well suited	
430B: Raddle-----	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
505G: Dunbarton-----	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Unsuited Slope	1.00
671A: Biggsville-----	Well suited		Well suited	
671B: Biggsville-----	Well suited		Well suited	
671C2: Biggsville-----	Well suited		Well suited	
672A: Crescent-----	Well suited		Well suited	
672B: Crescent-----	Well suited		Well suited	
675A: Greenbush-----	Well suited		Well suited	
675B: Greenbush-----	Well suited		Well suited	
675C2: Greenbush-----	Well suited		Well suited	
678A: Mannon-----	Well suited		Well suited	
678B: Mannon-----	Well suited		Well suited	
689A: Coloma-----	Well suited		Well suited	
689B: Coloma-----	Well suited		Well suited	
689D: Coloma-----	Well suited		Well suited	
724D2: Rozetta-----	Well suited		Well suited	
Elco-----	Well suited		Well suited	
802B: Orthents, loamy----	Well suited		Well suited	
864: Pits, quarries-----	Not rated		Not rated	
936D2: Fayette-----	Well suited		Well suited	
Hickory-----	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
936D3:				
Fayette-----	Well suited		Well suited	
Hickory-----	Well suited		Well suited	
936F:				
Fayette-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
936G:				
Fayette-----	Unsuited Slope	1.00	Unsuited Slope	1.00
Hickory-----	Unsuited Slope	1.00	Unsuited Slope	1.00
937D2:				
Seaton-----	Well suited		Well suited	
Hickory-----	Well suited		Well suited	
937D3:				
Seaton-----	Well suited		Well suited	
Hickory-----	Well suited		Well suited	
937F:				
Seaton-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
937G:				
Seaton-----	Unsuited Slope	1.00	Unsuited Slope	1.00
Hickory-----	Unsuited Slope	1.00	Unsuited Slope	1.00
943D3:				
Seaton-----	Well suited		Well suited	
Timula-----	Well suited		Well suited	
943F2:				
Seaton-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Timula-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
943G:				
Seaton-----	Unsuited Slope	1.00	Unsuited Slope	1.00
Timula-----	Unsuited Slope	1.00	Unsuited Slope	1.00

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
957D2:				
Elco-----	Well suited		Well suited	
Atlas-----	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
957D3:				
Elco-----	Well suited		Well suited	
Atlas-----	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
1083A:				
Wabash-----	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
1107A:				
Sawmill-----	Well suited		Well suited	
3074A:				
Radford-----	Well suited		Well suited	
3107+:				
Sawmill-----	Well suited		Well suited	
3107A:				
Sawmill-----	Well suited		Well suited	
3284A:				
Tice-----	Well suited		Well suited	
3302A:				
Ambraw-----	Well suited		Well suited	
3333A:				
Wakeland-----	Well suited		Well suited	
3334A:				
Birds-----	Well suited		Well suited	
3415A:				
Orion-----	Well suited		Well suited	
3451A:				
Lawson-----	Well suited		Well suited	
3646L:				
Fluvaquents-----	Unsuited Wetness	0.75	Unsuited Wetness	1.00
3725A:				
Otter-----	Well suited		Well suited	
Lawson-----	Well suited		Well suited	
7070A:				
Beaucoup-----	Well suited		Well suited	



Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7083A: Wabash-----	Poorly suited Stickiness; high plasticity index	0.50	Well suited	
7107A: Sawmill-----	Well suited		Well suited	
7183A: Shaffton-----	Well suited		Well suited	
7284A: Tice-----	Well suited		Well suited	
7302A: Ambraw-----	Well suited		Well suited	
7451A: Lawson-----	Well suited		Well suited	
7674A: Dozaville-----	Well suited		Well suited	

Table 11e.--Forestland 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	Potential for seedling mortality	
	Rating class and limiting features	Value
8D2: Hickory-----	Low	
8D3: Hickory-----	Low	
8F: Hickory-----	Low	
8F3: Hickory-----	Low	
8G: Hickory-----	Low	
51A: Muscatune-----	Low	
51B: Muscatune-----	Low	
61A: Atterberry-----	High Wetness	1.00
61B: Atterberry-----	High Wetness	1.00
68A: Sable-----	High Wetness	1.00
81A: Littleton-----	Low	
86A: Osc-----	Low	
86B: Osc-----	Low	
86B2: Osc-----	Low	
86C2: Osc-----	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
86D2: Osco-----	Low	
87A: Dickinson-----	Low	
87B: Dickinson-----	Low	
88A: Sparta-----	Low	
88B: Sparta-----	Low	
119E2: Elco-----	Low	
125A: Selma-----	High Wetness	1.00
134B: Camden-----	Low	
148A: Proctor-----	Low	
148B: Proctor-----	Low	
206A: Thorp-----	High Wetness	1.00
249A: Edinburg-----	High Wetness	1.00
259C2: Assumption-----	Low	
261A: Niota-----	High Wetness	1.00
262A: Denrock-----	Low	
268A: Mt. Carroll-----	High Wetness	1.00
268B: Mt. Carroll-----	Low	
271C2: Timula-----	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
271D2: Timula-----	Low	
272A: Edgington-----	High Wetness	1.00
274A: Seaton-----	Low	
274B: Seaton-----	Low	
274C2: Seaton-----	Low	
274C3: Seaton-----	Low	
274D2: Seaton-----	Low	
274D3: Seaton-----	Low	
275A: Joy-----	Low	
277B: Port Byron-----	Low	
277C2: Port Byron-----	Low	
278A: Stronghurst-----	High Wetness	1.00
278B: Stronghurst-----	High Wetness	1.00
279A: Rozetta-----	Low	
279B: Rozetta-----	Low	
279C2: Rozetta-----	Low	
279C3: Rozetta-----	Low	
279D2: Rozetta-----	Low	
280B: Fayette-----	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
280C2: Fayette-----	Low	
280D2: Fayette-----	Low	
280D3: Fayette-----	Low	
430A: Raddle-----	Low	
430B: Raddle-----	Low	
505G: Dunbarton-----	Low	
671A: Biggsville-----	Low	
671B: Biggsville-----	Low	
671C2: Biggsville-----	Low	
672A: Crescent-----	Low	
672B: Crescent-----	Low	
675A: Greenbush-----	Low	
675B: Greenbush-----	Low	
675C2: Greenbush-----	Low	
678A: Mannon-----	Low	
678B: Mannon-----	Low	
689A: Coloma-----	Low	
689B: Coloma-----	Low	
689D: Coloma-----	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
724D2:		
Rozetta-----	Low	
Elco-----	Low	
802B:		
Orthents, loamy----	Low	
864:		
Pits, quarries-----	Not rated	
936D2:		
Fayette-----	Low	
Hickory-----	Low	
936D3:		
Fayette-----	Low	
Hickory-----	Low	
936F:		
Fayette-----	Low	
Hickory-----	Low	
936G:		
Fayette-----	Low	
Hickory-----	Low	
937D2:		
Seaton-----	Low	
Hickory-----	Low	
937D3:		
Seaton-----	Low	
Hickory-----	Low	
937F:		
Seaton-----	Low	
Hickory-----	Low	
937G:		
Seaton-----	Low	
Hickory-----	Low	
943D3:		
Seaton-----	Low	
Timula-----	Low	
943F2:		
Seaton-----	Low	
Timula-----	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
943G:		
Seaton-----	Low	
Timula-----	Low	
957D2:		
Elco-----	Low	
Atlas-----	High Wetness	1.00
957D3:		
Elco-----	Low	
Atlas-----	High Wetness	1.00
1083A:		
Wabash-----	High Wetness	1.00
1107A:		
Sawmill-----	High Wetness	1.00
3074A:		
Radford-----	Low	
3107+:		
Sawmill-----	High Wetness	1.00
3107A:		
Sawmill-----	High Wetness	1.00
3284A:		
Tice-----	High Wetness	1.00
3302A:		
Ambraw-----	High Wetness	1.00
3333A:		
Wakeland-----	High Wetness	1.00
3334A:		
Birds-----	High Wetness	1.00
3415A:		
Orion-----	Low	
3451A:		
Lawson-----	Low	
3646L:		
Fluvaquents-----	High Wetness	1.00



Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
3725A: Otter-----	High Wetness	1.00
Lawson-----	Low	
7070A: Beaucoup-----	High Wetness	1.00
7083A: Wabash-----	High Wetness	1.00
7107A: Sawmill-----	High Wetness	1.00
7183A: Shaffton-----	Low	
7284A: Tice-----	Low	
7302A: Ambraw-----	High Wetness	1.00
7451A: Lawson-----	Low	
7674A: Dozaville-----	Low	

Table 12a.--Recreational Development

(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	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
8D3: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
8F: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
8F3: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
51B: Muscatune-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Slope	0.98 0.28
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
61B: Atterberry-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 0.28
68A: Sable-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
86A: Osco-----	Not limited		Not limited		Not limited	

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86B: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86B2: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86C2: Osco-----	Not limited		Not limited		Very limited Slope	1.00
86D2: Osco-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
87A: Dickinson-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Somewhat limited Slope	0.28
88A: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95
88B: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Slope	0.28
119E2: Elco-----	Very limited Slope Slow water movement	1.00 0.43	Very limited Slope Slow water movement	1.00 0.43	Very limited Slope Slow water movement	1.00 0.43
125A: Selma-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
134B: Camden-----	Not limited		Not limited		Somewhat limited Slope	0.28
148A: Proctor-----	Not limited		Not limited		Not limited	
148B: Proctor-----	Not limited		Not limited		Somewhat limited Slope	0.28
206A: Thorp-----	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
249A: Edinburg-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
259C2: Assumption-----	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement	0.43	Very limited Slope Slow water movement	1.00 0.43
261A: Niota-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
262A: Denrock-----	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
268A: Mt. Carroll-----	Not limited		Not limited		Not limited	
268B: Mt. Carroll-----	Not limited		Not limited		Somewhat limited Slope	0.28
271C2: Timula-----	Not limited		Not limited		Very limited Slope	1.00
271D2: Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
272A: Edgington-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
274A: Seaton-----	Not limited		Not limited		Not limited	
274B: Seaton-----	Not limited		Not limited		Somewhat limited Slope	0.28
274C2: Seaton-----	Not limited		Not limited		Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
274C3: Seaton-----	Not limited		Not limited		Very limited Slope	1.00
274D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
274D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
275A: Joy-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
277B: Port Byron-----	Not limited		Not limited		Somewhat limited Slope	0.28
277C2: Port Byron-----	Not limited		Not limited		Very limited Slope	1.00
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
278B: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 0.28
279A: Rozetta-----	Not limited		Not limited		Not limited	
279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
279C2: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
279C3: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
279D2: Rozetta-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280B: Fayette-----	Not limited		Not limited		Somewhat limited Slope	0.28
280C2: Fayette-----	Not limited		Not limited		Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D2: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280D3: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Somewhat limited Slope	0.28
505G: Dunbarton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	0.22	Slow water movement	0.22	Gravel content	0.70
					Slow water movement	0.22
671A: Biggsville-----	Not limited		Not limited		Not limited	
671B: Biggsville-----	Not limited		Not limited		Somewhat limited Slope	0.28
671C2: Biggsville-----	Not limited		Not limited		Very limited Slope	1.00
672A: Crescent-----	Not limited		Not limited		Not limited	
672B: Crescent-----	Not limited		Not limited		Somewhat limited Slope	0.28
675A: Greenbush-----	Not limited		Not limited		Not limited	
675B: Greenbush-----	Not limited		Not limited		Somewhat limited Slope	0.28
675C2: Greenbush-----	Not limited		Not limited		Very limited Slope	1.00
678A: Mannon-----	Not limited		Not limited		Not limited	
678B: Mannon-----	Not limited		Not limited		Somewhat limited Slope	0.28
689A: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy	1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
689B: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.50
689D: Coloma-----	Very limited Too sandy Slope	1.00 0.37	Very limited Too sandy Slope	1.00 0.37	Very limited Slope Too sandy	1.00 1.00
724D2: Rozetta-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Elco-----	Somewhat limited Slope Slow water movement	0.96 0.43	Somewhat limited Slope Slow water movement	0.96 0.43	Very limited Slope Slow water movement	1.00 0.43
802B: Orthents, loamy----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.50 0.21
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
936D3: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
936F: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
936G: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
937D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
937D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
937F: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
937G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
943F2: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
957D2: Elco-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
Atlas-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.96	Slope	1.00
	Slope	0.96	Depth to saturated zone	0.94	Slow water movement	1.00
957D3: Elco-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43



Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
957D3: Atlas-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.96	Slope	1.00
	Slope	0.96	Depth to saturated zone	0.94	Slow water movement	1.00
1083A: Wabash-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Slow water movement	1.00	Ponding	1.00
	Slow water movement	1.00	Too clayey	1.00	Slow water movement	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
1107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3074A: Radford-----	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.75	Very limited Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3107+: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3284A: Tice-----	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.78	Very limited Flooding	1.00
	Depth to saturated zone	0.99	Flooding	0.40	Depth to saturated zone	0.99
3302A: Ambraw-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3333A: Wakeland-----	Very limited Depth to saturated zone Flooding	1.00  1.00	Somewhat limited Depth to saturated zone Flooding	0.94  0.40	Very limited Depth to saturated zone Flooding	1.00  1.00
3334A: Birds-----	Very limited Depth to saturated zone Flooding	1.00  1.00	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  1.00
3415A: Orion-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75  0.40	Very limited Flooding Depth to saturated zone	1.00 0.98
3451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75  0.40	Very limited Flooding Depth to saturated zone	1.00 0.98
3646L: Fluvaquents-----	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00
3725A: Otter-----	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	1.00  1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00
Lawson-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75  0.40	Very limited Flooding Depth to saturated zone	1.00 0.98
7070A: Beaucoup-----	Very limited Depth to saturated zone Flooding Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
7083A: Wabash-----	Very limited Depth to saturated zone Flooding Ponding Slow water movement Too clayey	1.00  1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Slow water movement Too clayey	1.00  1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Slow water movement Too clayey	1.00  1.00 1.00 1.00

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7107A: Sawmill-----	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
7183A: Shaffton-----	Very limited Flooding Depth to saturated zone	1.00 0.77	Somewhat limited Depth to saturated zone	0.43	Somewhat limited Depth to saturated zone	0.77
7284A: Tice-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
7302A: Ambraw-----	Very limited Depth to saturated zone Flooding Ponding Slow water movement	1.00 1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.21
7451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
7674A: Dozaville-----	Very limited Flooding	1.00	Not limited		Not limited	

Table 12b.--Recreational Development

(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	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
8D2: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
8D3: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
8F: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope	1.00
8F3: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
51B: Muscatune-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
61A: Atterberry-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
61B: Atterberry-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
68A: Sable-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
86A: Osco-----	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
86B: Osco-----	Not limited		Not limited		Not limited	
86B2: Osco-----	Not limited		Not limited		Not limited	
86C2: Osco-----	Not limited		Not limited		Not limited	
86D2: Osco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
87A: Dickinson-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Not limited	
88A: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.08
88B: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.08
119E2: Elco-----	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
125A: Selma-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
134B: Camden-----	Not limited		Not limited		Not limited	
148A: Proctor-----	Not limited		Not limited		Not limited	
148B: Proctor-----	Not limited		Not limited		Not limited	
206A: Thorp-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
249A: Edinburg-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
259C2: Assumption-----	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
261A: Niota-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
262A: Denrock-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
268A: Mt. Carroll-----	Not limited		Not limited		Not limited	
268B: Mt. Carroll-----	Not limited		Not limited		Not limited	
271C2: Timula-----	Not limited		Not limited		Not limited	
271D2: Timula-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
272A: Edgington-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
274A: Seaton-----	Not limited		Not limited		Not limited	
274B: Seaton-----	Not limited		Not limited		Not limited	
274C2: Seaton-----	Not limited		Not limited		Not limited	
274C3: Seaton-----	Not limited		Not limited		Not limited	
274D2: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
274D3: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
275A: Joy-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
277B: Port Byron-----	Not limited		Not limited		Not limited	
277C2: Port Byron-----	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
278A: Stronghurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
278B: Stronghurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
279A: Rozetta-----	Not limited		Not limited		Not limited	
279B: Rozetta-----	Not limited		Not limited		Not limited	
279C2: Rozetta-----	Not limited		Not limited		Not limited	
279C3: Rozetta-----	Not limited		Not limited		Not limited	
279D2: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280B: Fayette-----	Not limited		Not limited		Not limited	
280C2: Fayette-----	Not limited		Not limited		Not limited	
280D2: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280D3: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Not limited	
505G: Dunbarton-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.77
671A: Biggsville-----	Not limited		Not limited		Not limited	
671B: Biggsville-----	Not limited		Not limited		Not limited	
671C2: Biggsville-----	Not limited		Not limited		Not limited	

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
672A: Crescent-----	Not limited		Not limited		Not limited	
672B: Crescent-----	Not limited		Not limited		Not limited	
675A: Greenbush-----	Not limited		Not limited		Not limited	
675B: Greenbush-----	Not limited		Not limited		Not limited	
675C2: Greenbush-----	Not limited		Not limited		Not limited	
678A: Mannon-----	Not limited		Not limited		Not limited	
678B: Mannon-----	Not limited		Not limited		Not limited	
689A: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Too sandy Droughty	0.50 0.49
689B: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Too sandy Droughty	0.50 0.49
689D: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Too sandy Slope	0.58 0.50 0.37
724D2: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
802B: Orthents, loamy----	Not limited		Not limited		Not limited	
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
936D3: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96



Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
936D3: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
936F: Fayette-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.02	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.02	Very limited Slope	1.00
936G: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
937D2: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
937D3: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
937F: Seaton-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.02	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.02	Very limited Slope	1.00
937G: Seaton-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943D3: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Timula-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
943F2: Seaton-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
943F2: Timula-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Timula-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
957D2: Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Atlas-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Slope Depth to saturated zone	0.96 0.94
957D3: Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Atlas-----	Very limited Water erosion Depth to saturated zone	1.00 0.86	Very limited Water erosion Depth to saturated zone	1.00 0.86	Somewhat limited Slope Depth to saturated zone	0.96 0.94
1083A: Wabash-----	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00 1.00
1107A: Sawmill-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00
3074A: Radford-----	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Very limited Flooding Depth to saturated zone	1.00 0.75
3107+: Sawmill-----	Somewhat limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
3107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Flooding	1.00 1.00
	Ponding Flooding	1.00 0.40	Ponding Flooding	1.00 0.40	Depth to saturated zone	1.00
3284A: Tice-----	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.78
3302A: Ambraw-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
	Ponding Flooding	1.00 0.40	Ponding Flooding	1.00 0.40	Depth to saturated zone Ponding	1.00 1.00
3333A: Wakeland-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94
3334A: Birds-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3415A: Orion-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3451A: Lawson-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3646L: Fluvaquents-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Flooding	1.00 1.00
	Ponding Flooding	1.00 0.40	Ponding Flooding	1.00 0.40	Depth to saturated zone	1.00
3725A: Otter-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
	Ponding Flooding	1.00 0.40	Ponding Flooding	1.00 0.40	Depth to saturated zone Ponding	1.00 1.00
Lawson-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Very limited Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75

Table 12b.--Recreational Development--Continued

Map symbol and soil name	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
7070A: Beaucoup-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
7083A: Wabash-----	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00  1.00 1.00
7107A: Sawmill-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
7183A: Shaffton-----	Somewhat limited Depth to saturated zone	0.08	Somewhat limited Depth to saturated zone	0.08	Somewhat limited Depth to saturated zone	0.43
7284A: Tice-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75  0.60
7302A: Ambraw-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
7451A: Lawson-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
7674A: Dozaville-----	Not limited		Not limited		Not limited	

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 herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
8D2: Hickory-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
8D3: Hickory-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
8F: Hickory-----	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
8F3: Hickory-----	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
8G: Hickory-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
51A: Muscatune-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
51B: Muscatune-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
61A: Atterberry-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
61B: Atterberry-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
68A: Sable-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
81A: Littleton-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
86A: Osco-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
86B: Osco-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
86B2: Osco-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
86C2: Osco-----	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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
86D2: Osco-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
87A: Dickinson-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
87B: Dickinson-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
88A: Sparta-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
88B: Sparta-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
119E2: Elco-----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
125A: Selma-----	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
134B: Camden-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
148A: Proctor-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
148B: Proctor-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
206A: Thorp-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
249A: Edinburg-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
259C2: Assumption-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Fair	Very poor
261A: Niota-----	Fair	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.
262A: Denrock-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
268A: Mt. Carroll-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
268B: Mt. Carroll-----	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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
271C2: Timula-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
271D2: Timula-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
272A: Edgington-----	Fair	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.
274A: Seaton-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
274B: Seaton-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
274C2: Seaton-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
274C3: Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
274D2: Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
274D3: Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
275A: Joy-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
277B: Port Byron-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
277C2: Port Byron-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
278A: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
278B: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
279A: Rozetta-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
279B: Rozetta-----	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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
279C2: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
279C3: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
279D2: Rozetta-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
280B: Fayette-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
280C2: Fayette-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
280D2: Fayette-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
280D3: Fayette-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
430A: Raddle-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
430B: Raddle-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
505G: Dunbarton-----	Very poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
671A: Biggsville-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
671B: Biggsville-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
671C2: Biggsville-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
672A: Crescent-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
672B: Crescent-----	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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
675A: Greenbush-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
675B: Greenbush-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
675C2: Greenbush-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
678A: Mannon-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
678B: Mannon-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
689A: Coloma-----	Poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
689B: Coloma-----	Poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
689D: Coloma-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
724D2: Rozetta-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Elco-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
802B. Orthents, loamy										
864. Pits, quarries										
936D2: Fayette-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hickory-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
936D3: Fayette-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hickory-----	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 herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
936F:										
Fayette-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Hickory-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
936G:										
Fayette-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Hickory-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
937D2:										
Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hickory-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
937D3:										
Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Hickory-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
937F:										
Seaton-----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Hickory-----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
937G:										
Seaton-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Hickory-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
943D3:										
Seaton-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Timula-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
943F2:										
Seaton-----	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Timula-----	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							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
943G:										
Seaton-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Timula-----	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
957D2:										
Elco-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Atlas-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
957D3:										
Elco-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Atlas-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
1083A:										
Wabash-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
1107A:										
Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3074A:										
Radford-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3107+:										
Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3107A:										
Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3284A:										
Tice-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3302A:										
Ambraw-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3333A:										
Wakeland-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3334A:										
Birds-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3415A:										
Orion-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3451A:										
Lawson-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3646L:										
Fluvaquents-----	Very poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	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 herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
3725A: Otter-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Lawson-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
7070A: Beaucoup-----	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
7083A: Wabash-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
7107A: Sawmill-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
7183A: Shaffton-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
7284A: Tice-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7302A: Ambraw-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
7451A: Lawson-----	Fair	Good	Good	Good	Good	Good	Fair	Good	Good	Fair.
7674A: Dozaville-----	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very poor.

Table 14a.--Building Site Development

(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	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
8D2: Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
8D3: Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
8F: Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
8F3: Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
8G: Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
51A: Muscatune-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
51B: Muscatune-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
61A: Atterberry-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
61B: Atterberry-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
68A: Sable-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
86A: Osc-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
86B: Osc-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
86B2: Osc-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
86C2: Osc-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
86D2: Osc-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.96 0.50 0.15	Very limited Slope Shrink-swell	1.00 0.50
87A: Dickinson-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Not limited	
88A: Sparta-----	Not limited		Not limited		Not limited	
88B: Sparta-----	Not limited		Not limited		Not limited	
119E2: Elco-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Shrink-swell	1.00 0.50
125A: Selma-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
134B: Camden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
148A: Proctor-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
148B: Proctor-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
206A: Thorp-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
249A: Edinburg-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
259C2: Assumption-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell Slope	1.00 0.97
261A: Niota-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
262A: Denrock-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
268A: Mt. Carroll-----	Not limited		Not limited		Not limited	
268B: Mt. Carroll-----	Not limited		Not limited		Not limited	
271C2: Timula-----	Not limited		Not limited		Somewhat limited Slope	0.97
271D2: Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
272A: Edgington-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding Shrink-swell	1.00 0.50	Ponding	1.00
274A: Seaton-----	Not limited		Not limited		Not limited	
274B: Seaton-----	Not limited		Not limited		Not limited	
274C2: Seaton-----	Not limited		Not limited		Somewhat limited Slope	0.97
274C3: Seaton-----	Not limited		Not limited		Somewhat limited Slope	0.97
274D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
274D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
275A: Joy-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
277B: Port Byron-----	Not limited		Not limited		Not limited	
277C2: Port Byron-----	Not limited		Not limited		Somewhat limited Slope	0.97
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
278B: Stronghurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
279A: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50



Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
279B: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
279C2: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
279C3: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
279D2: Rozetta-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.96 0.50 0.15	Very limited Slope Shrink-swell	1.00 0.50
280B: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
280C2: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
280D2: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
280D3: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Not limited	
505G: Dunbarton-----	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 1.00 1.00	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 1.00
671A: Biggsville-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Not limited	

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
671B: Biggsville-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Not limited	
671C2: Biggsville-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Somewhat limited Slope	0.97
672A: Crescent-----	Not limited		Not limited		Not limited	
672B: Crescent-----	Not limited		Not limited		Not limited	
675A: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
675B: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
675C2: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
678A: Mannon-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Not limited	
678B: Mannon-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Not limited	
689A: Coloma-----	Not limited		Not limited		Not limited	
689B: Coloma-----	Not limited		Not limited		Not limited	
689D: Coloma-----	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
724D2: Rozetta-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.96 0.50 0.15	Very limited Slope Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
724D2: Elco-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.96	Very limited Slope Shrink-swell	1.00 0.50
802B: Orthents, loamy----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
936D3: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
936F: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
936G: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
937D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
937D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Hickory-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
937F: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
937G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
943D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
943F2: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
957D2: Elco-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.96	Very limited Slope Shrink-swell	1.00 0.50
Atlas-----	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
957D3:						
Elco-----	Somewhat limited		Very limited		Very limited	
	Slope	0.96	Shrink-swell	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Slope	0.96		
Atlas-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
	Slope	0.96	Slope	0.96	Shrink-swell	1.00
1083A:						
Wabash-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
1107A:						
Sawmill-----	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3074A:						
Radford-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
3107+:						
Sawmill-----	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3107A:						
Sawmill-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3284A:						
Tice-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
3302A: Ambraw-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3333A: Wakeland-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3334A: Birds-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	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	Shrink-swell	0.50
3415A: Orion-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
3451A: Lawson-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
3646L: Fluvaquents-----	Very limited Ponding	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3725A: Otter-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
7070A: Beaucoup-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 14a.--Building Site Development--Continued

Map symbol and soil name	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
7083A: Wabash-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
7107A: Sawmill-----	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7183A: Shaffton-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
7284A: Tice-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7302A: Ambraw-----	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7451A: Lawson-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
7674A: Dozaville-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 14b.--Building Site Development

(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	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
8D2: Hickory-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
8D3: Hickory-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
8F: Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
8F3: Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
8G: Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
51A: Muscatune-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
51B: Muscatune-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				



Table 14b.--Building Site Development--Continued

Map symbol and soil name	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: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
61B: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
68A: Sable-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
81A: Littleton-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
86A: Osco-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
86B: Osco-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
86B2: Osco-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
86C2: Osco-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
86D2: Osco-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to	0.15		
	Slope	0.96	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
87A: Dickinson-----	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
87B: Dickinson-----	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
88A: Sparta-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.08
88B: Sparta-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.08
119E2: Elco-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.99 0.10	Very limited Slope	1.00
125A: Selma-----	Very limited Depth to saturated zone Frost action Ponding Shrink-swell Low strength	1.00 1.00 1.00 0.50 0.22	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
134B: Camden-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
148A: Proctor-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
148B: Proctor-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
206A: Thorp-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
249A: Edinburg-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	 1.00 1.00  0.10	Very limited Ponding Depth to saturated zone	 1.00 1.00  
259C2: Assumption-----	Very limited Frost action Shrink-swell Low strength	 1.00 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
261A: Niota-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell Ponding	 1.00  1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Ponding Too clayey	 1.00  1.00 1.00 0.41	Very limited Depth to saturated zone Ponding	 1.00  1.00
262A: Denrock-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.75  0.50	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00  1.00 0.18	Somewhat limited Depth to saturated zone	 0.75
268A: Mt. Carroll-----	Very limited Frost action Low strength	 1.00 1.00	Somewhat limited Cutbanks cave	 0.10	Not limited	
268B: Mt. Carroll-----	Very limited Frost action Low strength	 1.00 1.00	Somewhat limited Cutbanks cave	 0.10	Not limited	
271C2: Timula-----	Very limited Frost action	 1.00	Somewhat limited Cutbanks cave	 0.50	Not limited	
271D2: Timula-----	Very limited Frost action Slope	 1.00 0.96	Somewhat limited Slope Cutbanks cave	 0.96 0.50	Somewhat limited Slope	 0.96
272A: Edgington-----	Very limited Depth to saturated zone Frost action Low strength Ponding	 1.00  1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00  1.00 0.10	Very limited Depth to saturated zone Ponding	 1.00  1.00

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
274A: Seaton-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.50	Not limited	
274B: Seaton-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.50	Not limited	
274C2: Seaton-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.50	Not limited	
274C3: Seaton-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.50	Not limited	
274D2: Seaton-----	Very limited Frost action Low strength Slope	1.00 1.00 0.96	Somewhat limited Slope Cutbanks cave	0.96 0.50	Somewhat limited Slope	0.96
274D3: Seaton-----	Very limited Frost action Low strength Slope	1.00 1.00 0.96	Somewhat limited Slope Cutbanks cave	0.96 0.50	Somewhat limited Slope	0.96
275A: Joy-----	Very limited Frost action Low strength Depth to saturated zone	1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
277B: Port Byron-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.50	Not limited	
277C2: Port Byron-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
278A: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.94

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
278B: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.94
279A: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279B: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone Cutbanks cave	0.50 0.15 0.10	Not limited	
279C2: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279C3: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279D2: Rozetta-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10	Somewhat limited Slope	0.96
280B: Fayette-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
280C2: Fayette-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
280D2: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
280D3: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
430A: Raddle-----	Very limited Frost action Low strength	 1.00 0.78	Somewhat limited Cutbanks cave	 0.10	Not limited	
430B: Raddle-----	Very limited Frost action Low strength	 1.00 0.78	Somewhat limited Cutbanks cave	 0.10	Not limited	
505G: Dunbarton-----	Very limited Depth to hard bedrock Slope Low strength Shrink-swell Frost action	 1.00  1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	 1.00  1.00 0.10	Very limited Depth to bedrock Slope Droughty	 1.00 1.00 0.77
671A: Biggsville-----	Very limited Frost action Low strength Low strength	 1.00 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	
671B: Biggsville-----	Very limited Frost action Low strength	 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	
671C2: Biggsville-----	Very limited Frost action Low strength	 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	
672A: Crescent-----	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
672B: Crescent-----	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
675A: Greenbush-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
675B: Greenbush-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
675C2: Greenbush-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
678A: Mannon-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
678B: Mannon-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
689A: Coloma-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Too sandy Droughty	0.50 0.49
689B: Coloma-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Too sandy Droughty	0.50 0.49
689D: Coloma-----	Somewhat limited Slope	0.37	Very limited Cutbanks cave Slope	1.00 0.37	Somewhat limited Droughty Too sandy Slope	0.58 0.50 0.37
724D2: Rozetta-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10	Somewhat limited Slope	0.96
Elco-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	0.99 0.96 0.10	Somewhat limited Slope	0.96
802B: Orthents, loamy----	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
864: Pits, quarries-----	Not rated		Not rated		Not rated	

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
936D2: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
Hickory-----	Very limited Low strength Slope Shrink-swell Frost action	 1.00 0.96 0.50 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
936D3: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
Hickory-----	Very limited Low strength Slope Shrink-swell Frost action	 1.00 0.96 0.50 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
936F: Fayette-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
936G: Fayette-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
937D2: Seaton-----	Very limited Frost action Low strength Slope	 1.00 1.00 0.96	Somewhat limited Slope Cutbanks cave	 0.96 0.50	Somewhat limited Slope	 0.96



Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
937D2: Hickory-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
937D3: Seaton-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.50		
	Slope	0.96				
Hickory-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
937F: Seaton-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
937G: Seaton-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
943D3: Seaton-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.50		
	Slope	0.96				
Timula-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.50		
	Low strength	0.22				
943F2: Seaton-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
943F2: Timula-----	Very limited Slope Frost action	1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.50	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Timula-----	Very limited Slope Frost action Low strength	1.00 1.00 0.78	Very limited Slope Cutbanks cave	1.00 0.50	Very limited Slope	1.00
957D2: Elco-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	0.99 0.96 0.10	Somewhat limited Slope	0.96
Atlas-----	Very limited Frost action Low strength Shrink-swell Slope Depth to saturated zone	1.00 1.00 1.00 0.96 0.94	Very limited Depth to saturated zone Slope Cutbanks cave Too clayey	1.00 0.96 0.10 0.02	Somewhat limited Slope Depth to saturated zone	0.96 0.94
957D3: Elco-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	0.99 0.96 0.10	Somewhat limited Slope	0.96
Atlas-----	Very limited Frost action Low strength Shrink-swell Slope Depth to saturated zone	1.00 1.00 1.00 0.96 0.94	Very limited Depth to saturated zone Slope Cutbanks cave Too clayey	1.00 0.96 0.10 0.02	Somewhat limited Slope Depth to saturated zone	0.96 0.94
1083A: Wabash-----	Very limited Shrink-swell Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Too clayey Cutbanks cave	1.00 1.00 0.80 0.50 0.10	Very limited Ponding Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00 1.00

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
1107A: Sawmill-----	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	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3074A: Radford-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
3107+: Sawmill-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.99
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.99				
	Shrink-swell	0.50				
3107A: Sawmill-----	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	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	1.00				
3284A: Tice-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.78
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.78				
	Shrink-swell	0.50				
3302A: Ambraw-----	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	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3333A: Wakeland-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
	Depth to saturated zone	0.94	Cutbanks cave	0.10		

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
3334A: Birds-----	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	1.00				
	Shrink-swell	0.50				
3415A: Orion-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75				
3451A: Lawson-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
3646L: Fluvaquents-----	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	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	1.00				
3725A: Otter-----	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	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
Lawson-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
7070A: Beaucoup-----	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	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				

Table 14b.--Building Site Development--Continued

Map symbol and soil name	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
7083A: Wabash-----	Very limited Shrink-swell Ponding Depth to saturated zone Frost action Low strength	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 0.50 0.10	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 1.00
7107A: Sawmill-----	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
7183A: Shaffton-----	Very limited Frost action Low strength Depth to saturated zone Flooding	1.00 1.00 0.43 0.40	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.43
7284A: Tice-----	Very limited Frost action Flooding Low strength Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
7302A: Ambraw-----	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
7451A: Lawson-----	Very limited Frost action Depth to saturated zone Flooding	1.00 0.75 0.40	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
7674A: Dozaville-----	Very limited Frost action Low strength Flooding	1.00 1.00 0.40	Very limited Cutbanks cave	1.00	Not limited	

Table 15a.--Sanitary Facilities

(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	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
8D3: Hickory-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
8F: Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
8F3: Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
8G: Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
51A: Muscatune-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
51B: Muscatune-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18
61A: Atterberry-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
61B: Atterberry-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage Slope	0.53 0.18
68A: Sable-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding Slow water movement	1.00 0.46	Ponding Seepage	1.00 0.53
81A: Littleton-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
86A: Osc-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
86B: Osc-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
86B2: Osc-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
86C2: Osc-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
86D2: Osc-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
87A: Dickinson-----	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
87B: Dickinson-----	Very limited Seepage	1.00	Very limited Seepage Slope	1.00 0.18
88A: Sparta-----	Very limited Filtering capacity Seepage	1.00 1.00	Very limited Seepage	1.00
88B: Sparta-----	Very limited Filtering capacity Seepage	1.00 1.00	Very limited Seepage Slope	1.00 0.18
119E2: Elco-----	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 1.00 1.00	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.04
125A: Selma-----	Very limited Depth to saturated zone Seepage Ponding Slow water movement	1.00 1.00 1.00 0.46	Very limited Seepage Depth to saturated zone Ponding	1.00 1.00 1.00
134B: Camden-----	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
148A: Proctor-----	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage	1.00
148B: Proctor-----	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
206A: Thorp-----	Very limited Slow water movement Ponding Depth to saturated zone Seepage	1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	1.00 1.00 1.00



Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
249A: Edinburg-----	Very limited Slow water movement Ponding Depth to saturated zone	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	1.00  1.00 0.53
259C2: Assumption-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Slope Seepage	1.00  1.00 0.53
261A: Niota-----	Very limited Slow water movement Depth to saturated zone Seepage Ponding	1.00  1.00 1.00 1.00	Very limited Seepage Depth to saturated zone Ponding	1.00  1.00 1.00
262A: Denrock-----	Very limited Slow water movement Depth to saturated zone Seepage	1.00  1.00 1.00	Very limited Seepage Depth to saturated zone	1.00  1.00
268A: Mt. Carroll-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
268B: Mt. Carroll-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.18
271C2: Timula-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
271D2: Timula-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
272A: Edgington-----	Very limited Depth to saturated zone Slow water movement Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding Seepage	1.00  1.00 0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
274A: Seaton-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
274B: Seaton-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.18
274C2: Seaton-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
274C3: Seaton-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
274D2: Seaton-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
274D3: Seaton-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
275A: Joy-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53
277B: Port Byron-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.18
277C2: Port Byron-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
278A: Stronghurst-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
278B: Stronghurst-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage Slope	0.53 0.18
279A: Rozetta-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
279B: Rozetta-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage Slope	0.53 0.18
	Depth to saturated zone	0.40		
279C2: Rozetta-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope Seepage	1.00 0.53
	Depth to saturated zone	0.40		
279C3: Rozetta-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope Seepage	1.00 0.53
	Depth to saturated zone	0.40		
279D2: Rozetta-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
280B: Fayette-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage Slope	0.53 0.18
280C2: Fayette-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope Seepage	1.00 0.53
280D2: Fayette-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
280D3: Fayette-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
430A: Raddle-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
430B: Raddle-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.18
505G: Dunbarton-----	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.21
671A: Biggsville-----	Somewhat limited Slow water movement Depth to saturated zone	0.46 0.40	Somewhat limited Seepage	0.53
671B: Biggsville-----	Somewhat limited Slow water movement Depth to saturated zone	0.46 0.40	Somewhat limited Seepage Slope	0.53 0.18
671C2: Biggsville-----	Somewhat limited Slow water movement Depth to saturated zone	0.46 0.40	Very limited Slope Seepage	1.00 0.53
672A: Crescent-----	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage	1.00
672B: Crescent-----	Very limited Seepage Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
675A: Greenbush-----	Somewhat limited Slow water movement Depth to saturated zone	0.46 0.40	Somewhat limited Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
675B: Greenbush-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
675C2: Greenbush-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
678A: Mannon-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
678B: Mannon-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
689A: Coloma-----	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Filtering capacity	1.00		
689B: Coloma-----	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Filtering capacity	1.00	Slope	0.32
689D: Coloma-----	Very limited		Very limited	
	Seepage	1.00	Slope	1.00
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.37		
724D2: Rozetta-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
Elco-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
	Slope	0.96	Depth to saturated zone	0.04

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
802B: Orthents, loamy-----	Very limited Slope Slow water movement	1.00	Somewhat limited Slope	0.32
864: Pits, quarries-----	Not rated		Not rated	
936D2: Fayette-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
Hickory-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
936D3: Fayette-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
Hickory-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
936F: Fayette-----	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
Hickory-----	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
936G: Fayette-----	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
Hickory-----	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
937D2: Seaton-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53
Hickory-----	Somewhat limited Slope Slow water movement	0.96 0.46	Very limited Slope Seepage	1.00 0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
937D3:				
Seaton-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Hickory-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
937F:				
Seaton-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
937G:				
Seaton-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
943D3:				
Seaton-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Timula-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
943F2:				
Seaton-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Timula-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
943G:				
Seaton-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
943G: Timula-----	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
957D2: Elco-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.96	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.04
Atlas-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 0.96	Very limited Slope Depth to saturated zone	1.00 1.00
957D3: Elco-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.96	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.04
Atlas-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 0.96	Very limited Slope Depth to saturated zone	1.00 1.00
1083A: Wabash-----	Very limited Flooding Slow water movement Ponding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
1107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Slow water movement	1.00 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Ponding Seepage	1.00 1.00 1.00 0.53
3074A: Radford-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53



Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3107+: Sawmill-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3107A: Sawmill-----	Very limited Flooding Ponding Depth to saturated zone Slow water movement	1.00 1.00 1.00 0.46	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
3284A: Tice-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3302A: Ambraw-----	Very limited Flooding Depth to saturated zone Slow water movement Ponding	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Ponding Seepage	1.00 1.00 1.00 0.28
3333A: Wakeland-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3334A: Birds-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3415A: Orion-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A: Lawson-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3646L: Fluvaquents-----	Very limited Flooding Ponding Depth to saturated zone Slow water movement	1.00 1.00 1.00 0.46	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 0.53
3725A: Otter-----	Very limited Flooding Depth to saturated zone Ponding Slow water movement	1.00 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Ponding Seepage	1.00 1.00 1.00 0.53
Lawson-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
7070A: Beaucoup-----	Very limited Depth to saturated zone Ponding Slow water movement Flooding	1.00 1.00 0.46 0.40	Very limited Depth to saturated zone Ponding Seepage Flooding	1.00 1.00 0.53 0.40
7083A: Wabash-----	Very limited Slow water movement Ponding Depth to saturated zone Flooding	1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40
7107A: Sawmill-----	Very limited Depth to saturated zone Ponding Slow water movement Flooding	1.00 1.00 0.46 0.40	Very limited Depth to saturated zone Ponding Seepage Flooding	1.00 1.00 0.53 0.40

Table 15a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7183A: Shaffton-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Slow water movement	0.46	Flooding	0.40
	Flooding	0.40		
7284A: Tice-----	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	0.46	Seepage	0.53
7302A: Ambraw-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
	Flooding	0.40	Flooding	0.40
7451A: Lawson-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
7674A: Dozaville-----	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.53
	Slow water movement	0.46	Flooding	0.40
	Flooding	0.40		

Table 15b.--Sanitary Facilities

(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	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
8D2: Hickory-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
8D3: Hickory-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
8F: Hickory-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
8F3: Hickory-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
8G: Hickory-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
51A: Muscatune-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
51B: Muscatune-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
61A: Atterberry-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
61B: Atterberry-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
68A: Sable-----	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
81A: Littleton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
86A: Osco-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
86B: Osco-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
86B2: Osco-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
86C2: Osco-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
86D2: Osco-----	Very limited Depth to saturated zone Slope Too clayey	1.00 0.96 0.50	Very limited Depth to saturated zone Slope	1.00 0.96	Somewhat limited Slope Too clayey	0.96 0.50
87A: Dickinson-----	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
87B: Dickinson-----	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
88A: Sparta-----	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
88B: Sparta-----	Very limited Seepage Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
119E2: Elco-----	Very limited Slope Depth to saturated zone Too clayey	1.00 0.68 0.50	Very limited Slope Depth to saturated zone	1.00 0.04	Very limited Slope Too clayey Depth to saturated zone	1.00 0.50 0.24

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00				
134B: Camden-----	Very limited Seepage	1.00	Not limited		Somewhat limited Too clayey Seepage	0.50 0.22
148A: Proctor-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22
148B: Proctor-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22
206A: Thorp-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
249A: Edinburg-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact Too clayey	1.00 0.50
259C2: Assumption-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
	Too clayey	0.50				
261A: Niota-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00				
262A: Denrock-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact	1.00 1.00
	Seepage	1.00			Depth to saturated zone	1.00
	Too clayey	1.00				
268A: Mt. Carroll-----	Not limited		Not limited		Not limited	
268B: Mt. Carroll-----	Not limited		Not limited		Not limited	

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
271C2: Timula-----	Not limited		Not limited		Not limited	
271D2: Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
272A: Edgington-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
274A: Seaton-----	Not limited		Not limited		Not limited	
274B: Seaton-----	Not limited		Not limited		Not limited	
274C2: Seaton-----	Not limited		Not limited		Not limited	
274C3: Seaton-----	Not limited		Not limited		Not limited	
274D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
274D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
275A: Joy-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
277B: Port Byron-----	Not limited		Not limited		Not limited	
277C2: Port Byron-----	Not limited		Not limited		Not limited	
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
278B: Stronghurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
279A: Rozetta-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
	Too clayey	0.50				

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
279B: Rozetta-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
279C2: Rozetta-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
279C3: Rozetta-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
279D2: Rozetta-----	Very limited Depth to saturated zone Slope Too clayey	1.00  0.96 0.50	Very limited Depth to saturated zone Slope	1.00  0.96	Somewhat limited Slope Too clayey	0.96  0.50
280B: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280C2: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280D2: Fayette-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
280D3: Fayette-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Not limited	
505G: Dunbarton-----	Very limited Slope Depth to bedrock Too clayey	1.00  1.00 1.00	Very limited Slope Depth to bedrock	1.00  1.00	Very limited Depth to bedrock Slope Too clayey Hard to compact	1.00  1.00 1.00 1.00
671A: Biggsville-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	



Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
671B: Biggsville-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
671C2: Biggsville-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
672A: Crescent-----	Very limited Seepage Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	
672B: Crescent-----	Very limited Seepage Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	
675A: Greenbush-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	
675B: Greenbush-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	
675C2: Greenbush-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	
678A: Mannon-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
678B: Mannon-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
689A: Coloma-----	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	
689B: Coloma-----	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
689D:						
Coloma-----	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37
724D2:						
Rozetta-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	0.96	Slope	0.96	Too clayey	0.50
	Too clayey	0.50				
Elco-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
802B:						
Orthents, loamy----	Not limited		Not limited		Not limited	
864:						
Pits, quarries-----	Not rated		Not rated		Not rated	
936D2:						
Fayette-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
Hickory-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
936D3:						
Fayette-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
Hickory-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
936F:						
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
936G:						
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
937D2: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Hickory-----	Somewhat limited Slope Too clayey	0.96 0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96 0.50
937D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Hickory-----	Somewhat limited Slope Too clayey	0.96 0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96 0.50
937F: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
937G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
943D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
943F2: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
957D2: Elco-----	Somewhat limited Slope Depth to saturated zone Too clayey	0.96 0.68 0.50	Somewhat limited Slope Depth to saturated zone	0.96 0.04	Somewhat limited Slope Too clayey Depth to saturated zone	0.96 0.50 0.24

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
957D2: Atlas-----	Very limited Depth to saturated zone Too clayey Slope	1.00  1.00 0.96	Very limited Depth to saturated zone Slope	1.00  0.96	Very limited Depth to saturated zone Too clayey Hard to compact Slope	1.00  1.00 1.00 0.96
957D3: Elco-----	Somewhat limited Slope Depth to saturated zone Too clayey	0.96  0.68 0.50	Somewhat limited Slope Depth to saturated zone	0.96  0.04	Somewhat limited Slope Too clayey Depth to saturated zone	0.96  0.50 0.24
Atlas-----	Very limited Depth to saturated zone Too clayey Slope	1.00  1.00 0.96	Very limited Depth to saturated zone Slope	1.00  0.96	Very limited Depth to saturated zone Too clayey Hard to compact Slope	1.00  1.00 1.00 0.96
1083A: Wabash-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Hard to compact	1.00  1.00 1.00 1.00
1107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50
3074A: Radford-----	Very limited Flooding Depth to saturated zone Too clayey	1.00  1.00 0.50	Very limited Flooding Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
3107+: Sawmill-----	Very limited Flooding Depth to saturated zone Too clayey	1.00  1.00 0.50	Very limited Flooding Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
3107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00 0.50	Very limited Flooding Ponding Depth to saturated zone	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00  1.00 0.50

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
3284A: Tice-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
3302A: Ambraw-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
3333A: Wakeland-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3334A: Birds-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3415A: Orion-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3646L: Fluvaquents-----	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
3725A: Otter-----	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Lawson-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00

Table 15b.--Sanitary Facilities--Continued

Map symbol and soil name	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
7070A: Beaucoup-----	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
7083A: Wabash-----	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey Hard to compact	1.00 1.00 1.00 1.00
7107A: Sawmill-----	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
7183A: Shaffton-----	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Somewhat limited Depth to saturated zone Seepage	0.95 0.22
7284A: Tice-----	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
7302A: Ambraw-----	Very limited Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
7451A: Lawson-----	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone	1.00
7674A: Dozaville-----	Very limited Seepage Flooding	1.00 0.40	Somewhat limited Flooding	0.40	Not limited	

Table 16a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. 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. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
8D2:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8D3:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8F:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8F3:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8G:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
51A:		
Muscatune-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
51B:		
Muscatune-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
61A:		
Atterberry-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
61B:		
Atterberry-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
68A: Sable-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
81A: Littleton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86A: Osco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86B: Osco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86B2: Osco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86C2: Osco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86D2: Osco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
87A: Dickinson-----	Fair	
	Thickest layer	0.01
	Bottom layer	0.67
87B: Dickinson-----	Fair	
	Thickest layer	0.04
	Bottom layer	0.67
88A: Sparta-----	Fair	
	Thickest layer	0.36
	Bottom layer	0.76
88B: Sparta-----	Fair	
	Thickest layer	0.36
	Bottom layer	0.76
119E2: Elco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00



Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
125A: Selma-----	Fair	
	Thickest layer	0.00
	Bottom layer	0.06
134B: Camden-----	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
148A: Proctor-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
148B: Proctor-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
206A: Thorp-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
249A: Edinburg-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
259C2: Assumption-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
261A: Niota-----	Fair	
	Thickest layer	0.00
	Bottom layer	0.06
262A: Denrock-----	Good	
268A: Mt. Carroll-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
268B: Mt. Carroll-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
271C2: Timula-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
271D2: Timula-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
272A: Edgington-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274A: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274B: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274C2: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274C3: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274D2: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
274D3: Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
275A: Joy-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
277B: Port Byron-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
277C2: Port Byron-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
278A: Stronghurst-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
278B: Stronghurst-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279A: Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279B: Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279C2: Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279C3: Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279D2: Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280B: Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280C2: Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280D2: Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280D3: Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
430A: Raddle-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
430B: Raddle-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
505G:		
Dunbarton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
671A:		
Biggsville-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
671B:		
Biggsville-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
671C2:		
Biggsville-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
672A:		
Crescent-----	Fair	
	Thickest layer	0.00
	Bottom layer	0.17
672B:		
Crescent-----	Fair	
	Thickest layer	0.00
	Bottom layer	0.17
675A:		
Greenbush-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
675B:		
Greenbush-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
675C2:		
Greenbush-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
678A:		
Mannon-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
678B:		
Mannon-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
689A:		
Coloma-----	Fair	
	Bottom layer	0.58
	Thickest layer	0.76

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
689B:		
Coloma-----	Fair	
	Bottom layer	0.58
	Thickest layer	0.76
689D:		
Coloma-----	Fair	
	Bottom layer	0.58
	Thickest layer	0.83
724D2:		
Rozetta-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Elco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
802B:		
Orthents, loamy----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
864:		
Pits, quarries-----	Not rated	
936D2:		
Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
936D3:		
Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
936F:		
Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
936G:		
Fayette-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
936G:		
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
937D2:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
937D3:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
937F:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
937G:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Hickory-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
943D3:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Timula-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
943F2:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Timula-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
943G:		
Seaton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Timula-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
957D2:		
Elco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Atlas-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
957D3:		
Elco-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Atlas-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
1083A:		
Wabash-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
1107A:		
Sawmill-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3074A:		
Radford-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3107+:		
Sawmill-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3107A:		
Sawmill-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3284A:		
Tice-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3302A:		
Ambraw-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
3333A: Wakeland-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3334A: Birds-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3415A: Orion-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3451A: Lawson-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3646L: Fluvaquents-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3725A: Otter-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7070A: Beaucoup-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7083A: Wabash-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7107A: Sawmill-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7183A: Shaffton-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7284A: Tice-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00



Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
7302A:		
Ambraw-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7451A:		
Lawson-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7674A:		
Dozaville-----	Poor	
	Thickest layer	0.00
	Bottom layer	0.00

Table 16b.--Construction Materials

(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 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.94	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
8D3: Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.99	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
8F: Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.94	Rock fragments	0.88
	Water erosion	0.99				
8F3: Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.99	Rock fragments	0.88
8G: Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.68	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.99		
	Water erosion	0.99				
51A: Muscatune-----	Fair		Poor		Fair	
	Too acid	0.84	Low strength	0.00	Depth to	0.14
	Too clayey	0.92	Depth to	0.14	saturated zone	
	Organic matter content	0.92	saturated zone		Too clayey	0.67
	Water erosion	0.99	Shrink-swell	0.99		
51B: Muscatune-----	Fair		Poor		Fair	
	Too clayey	0.92	Low strength	0.00	Depth to	0.14
	Too acid	0.97	Depth to	0.14	saturated zone	
	Water erosion	0.99	saturated zone		Too clayey	0.72
			Shrink-swell	0.99		

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61A: Atterberry-----	Fair		Poor		Fair	
	Organic matter content	0.18	Low strength	0.00	Depth to saturated zone	0.04
	Too acid	0.54	Depth to saturated zone	0.04	Too clayey	0.55
	Water erosion	0.90	Shrink-swell	0.99	Too acid	0.98
	Too clayey	0.92				
61B: Atterberry-----	Fair		Poor		Fair	
	Organic matter content	0.18	Low strength	0.00	Depth to saturated zone	0.04
	Too acid	0.54	Depth to saturated zone	0.04	Too clayey	0.55
	Water erosion	0.90	Shrink-swell	0.98	Too acid	0.98
	Too clayey	0.92				
68A: Sable-----	Fair		Poor		Poor	
	Organic matter content	0.68	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.98
	Water erosion	0.99	Shrink-swell	0.87		
81A: Littleton-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.68	Depth to saturated zone	0.14		
86A: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Too clayey	0.64
	Water erosion	0.68	Shrink-swell	0.87		
	Too acid	0.84				
	Too clayey	0.98				
86B: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Too clayey	0.64
	Too acid	0.84	Shrink-swell	0.87		
	Too clayey	0.98				
	Water erosion	0.99				
86B2: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Too clayey	0.64
	Too acid	0.54	Shrink-swell	0.99		
	Too clayey	0.98				
	Water erosion	0.99				
86C2: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.64
	Water erosion	0.68	Shrink-swell	0.87		
	Too acid	0.84				
	Too clayey	0.98				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86D2: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Slope	0.04
	Too acid	0.84	Shrink-swell	0.87	Too clayey	0.64
	Too clayey	0.98				
	Water erosion	0.99				
87A: Dickinson-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.84				
	Droughty	0.96				
87B: Dickinson-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.84				
88A: Sparta-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.12				
	Too acid	0.74				
88B: Sparta-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.60				
	Too acid	0.97				
119E2: Elco-----	Fair		Poor		Poor	
	Organic matter content	0.02	Low strength	0.00	Slope	0.00
	Water erosion	0.68	Slope	0.18	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.45	Depth to	0.98
			Depth to saturated zone	0.98	saturated zone	
125A: Selma-----	Fair		Poor		Poor	
	Organic matter content	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.78	Hard to reclaim	0.05
			Shrink-swell	0.99	(dense layer)	
134B: Camden-----	Fair		Good		Fair	
	Organic matter content	0.12			Too clayey	0.49
	Water erosion	0.68				
	Too clayey	0.82				
	Too acid	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148A: Proctor-----	Fair		Good		Fair	
	Organic matter content	0.24			Too clayey	0.81
	Too clayey	0.98				
	Water erosion	0.99				
148B: Proctor-----	Fair		Good		Fair	
	Organic matter content	0.24			Too clayey	0.81
	Too clayey	0.98				
	Water erosion	0.99				
206A: Thorp-----	Fair		Poor		Poor	
	Organic matter content	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.90	Low strength	0.00	Too clayey	0.57
	Too acid	0.97	Shrink-swell	0.99		
	Too clayey	0.98				
249A: Edinburg-----	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Organic matter content	0.68	Low strength	0.00	Too clayey	0.01
	Water erosion	0.99	Shrink-swell	0.17		
259C2: Assumption-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.64
	Too acid	0.97	Shrink-swell	0.31	Depth to saturated zone	0.98
	Too clayey	0.98	Depth to saturated zone	0.98		
	Water erosion	0.99				
261A: Niota-----	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Organic matter content	0.12	Shrink-swell	0.92	Too clayey	0.00
	Too acid	0.20			Too acid	0.76
	Water erosion	0.90				
262A: Denrock-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.74	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Water erosion	0.99	Shrink-swell	0.99		
268A: Mt. Carroll-----	Fair		Poor		Good	
	Organic matter content	0.24	Low strength	0.00		
	Too acid	0.84				
	Water erosion	0.90				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
268B: Mt. Carroll-----	Fair		Poor		Good	
	Organic matter content	0.24	Low strength	0.00		
	Too acid	0.84				
	Water erosion	0.90				
271C2: Timula-----	Fair		Good		Fair	
	Organic matter content	0.24			Carbonate content	0.92
	Water erosion	0.37				
	Carbonate content	0.92				
271D2: Timula-----	Fair		Good		Fair	
	Organic matter content	0.24			Slope	0.04
	Water erosion	0.37			Carbonate content	0.92
	Carbonate content	0.92				
272A: Edgington-----	Fair		Poor		Poor	
	Too acid	0.54	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.90	Low strength	0.00		
274A: Seaton-----	Fair		Poor		Good	
	Organic matter content	0.88	Low strength	0.00		
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
274B: Seaton-----	Fair		Poor		Good	
	Organic matter content	0.88	Low strength	0.00		
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
274C2: Seaton-----	Fair		Poor		Good	
	Organic matter content	0.88	Low strength	0.00		
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
274C3: Seaton-----	Fair		Poor		Good	
	Organic matter content	0.88	Low strength	0.00		
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
274D2: Seaton-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Slope	0.04
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
274D3: Seaton-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Slope	0.04
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
275A: Joy-----	Fair		Poor		Fair	
	Organic matter content	0.60	Low strength	0.00	Depth to	0.14
	Water erosion	0.90	Depth to saturated zone	0.14	saturated zone	
	Too acid	0.97				
277B: Port Byron-----	Fair		Poor		Good	
	Organic matter content	0.24	Low strength	0.00		
	Water erosion	0.90				
	Too acid	0.97				
277C2: Port Byron-----	Fair		Poor		Good	
	Organic matter content	0.24	Low strength	0.00		
	Water erosion	0.90				
278A: Stronghurst-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Depth to	0.04
	Water erosion	0.90	Depth to saturated zone	0.04	saturated zone	
	Too acid	0.97	Shrink-swell	0.97	Too clayey	0.70
	Too clayey	0.98				
278B: Stronghurst-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Depth to	0.04
	Water erosion	0.90	Depth to saturated zone	0.04	saturated zone	
	Too acid	0.97	Shrink-swell	0.96	Too clayey	0.70
	Too clayey	0.98				
279A: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Too clayey	0.60
	Water erosion	0.68	Shrink-swell	0.96		
	Too acid	0.68				
	Too clayey	0.98				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279B: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.92	Too clayey	0.57
	Water erosion	0.68				
	Too acid	0.68				
	Too clayey	0.98				
279C2: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength Shrink-swell	0.00 0.90	Too clayey	0.60
	Too acid	0.68				
	Water erosion	0.90				
	Too clayey	0.98				
279C3: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Too clayey	0.60
	Water erosion	0.68				
	Too acid	0.68				
	Too clayey	0.98				
279D2: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength Shrink-swell	0.00 0.96	Slope Too clayey	0.04 0.60
	Too acid	0.68				
	Water erosion	0.90				
	Too clayey	0.98				
280B: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength Shrink-swell	0.00 0.87	Too clayey	0.64
	Water erosion	0.68				
	Too acid	0.68				
	Too clayey	0.98				
280C2: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Too clayey	0.57
	Too acid	0.68				
	Water erosion	0.90				
	Too clayey	0.98				
280D2: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.04 0.57
	Too acid	0.68				
	Water erosion	0.90				
	Too clayey	0.98				



Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D3: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.04 0.57
	Water erosion	0.68				
	Too acid	0.68				
	Too clayey	0.98				
430A: Raddle-----	Fair		Fair		Good	
	Water erosion	0.68	Low strength	0.22		
430B: Raddle-----	Fair		Fair		Good	
	Water erosion	0.68	Low strength	0.22		
505G: Dunbarton-----	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.12	Rock fragments Too clayey	0.50 0.53
	Water erosion	0.90				
	Too clayey	0.92				
671A: Biggsville-----	Fair		Poor		Good	
	Water erosion	0.90	Low strength	0.00		
	Carbonate content	0.97				
671B: Biggsville-----	Fair		Poor		Good	
	Water erosion	0.90	Low strength	0.00		
	Carbonate content	0.97				
671C2: Biggsville-----	Fair		Poor		Good	
	Organic matter content	0.50	Low strength	0.00		
	Water erosion	0.90				
672A: Crescent-----	Fair		Good		Good	
	Too acid	0.84				
	Organic matter content	0.88				
672B: Crescent-----	Fair		Good		Good	
	Too acid	0.84				
	Organic matter content	0.88				
675A: Greenbush-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength Shrink-swell	0.00 0.93	Too clayey	0.70
	Water erosion	0.90				
	Too acid	0.97				
	Too clayey	0.98				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
675B: Greenbush-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength Shrink-swell	0.00 0.91	Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
	Water erosion	0.99				
675C2: Greenbush-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength Shrink-swell	0.00 0.87	Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
	Water erosion	0.99				
678A: Mannon-----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Too acid	0.97				
	Water erosion	0.99				
678B: Mannon-----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Water erosion	0.90				
	Too acid	0.97				
689A: Coloma-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.12				
	Droughty	0.36				
	Too acid	0.88				
689B: Coloma-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.12				
	Droughty	0.36				
	Too acid	0.88				
689D: Coloma-----	Poor		Good		Poor	
	Wind erosion	0.00			Too sandy	0.00
	Too sandy	0.00			Slope	0.63
	Organic matter content	0.12				
	Droughty	0.31				
	Too acid	0.88				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
724D2: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Slope	0.04
	Too acid	0.54	Shrink-swell	0.96	Too clayey	0.60
	Water erosion	0.90			Too acid	0.98
	Too clayey	0.98				
Elco-----	Fair		Poor		Fair	
	Organic matter content	0.02	Low strength	0.00	Slope	0.04
	Water erosion	0.90	Shrink-swell	0.38	Too clayey	0.57
	Too clayey	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.98
802B: Orthents, loamy----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Water erosion	0.68	Shrink-swell	0.87	Too clayey	0.57
	Too acid	0.68				
	Too clayey	0.98				
Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.95	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
936D3: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Water erosion	0.68	Shrink-swell	0.87	Too clayey	0.57
	Too acid	0.68				
	Too clayey	0.98				
Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.99	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
936F: Fayette-----	Fair		Poor		Poor	
	Organic matter content	0.50	Low strength	0.00	Slope	0.00
	Water erosion	0.68	Slope	0.00	Too clayey	0.64
	Too acid	0.68	Shrink-swell	0.87		
	Too clayey	0.98				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
936F: Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Low strength	0.00	Slope	0.00
	Too acid	0.54	Slope	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.95	Rock fragments	0.97
	Water erosion	0.99			Too acid	0.98
936G: Fayette-----	Fair		Poor		Poor	
	Organic matter content	0.50	Slope	0.00	Slope	0.00
	Water erosion	0.68	Low strength	0.00	Too clayey	0.64
	Too acid	0.68	Shrink-swell	0.87		
	Too clayey	0.98				
Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.54	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.95	Rock fragments	0.97
	Water erosion	0.99			Too acid	0.98
937D2: Seaton-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Slope	0.04
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.94	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
937D3: Seaton-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Slope	0.04
	Too acid	0.88				
	Water erosion	0.90				
	Carbonate content	0.97				
Hickory-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Slope	0.04
	Too acid	0.88	Shrink-swell	0.99	Too clayey	0.57
	Too clayey	0.98			Rock fragments	0.88
937F: Seaton-----	Fair		Poor		Poor	
	Organic matter content	0.88	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00		
	Water erosion	0.90				
	Carbonate content	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
937F: Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.94	Rock fragments	0.88
	Water erosion	0.99				
937G: Seaton-----	Fair		Poor		Poor	
	Organic matter content	0.88	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00		
	Water erosion	0.90				
	Carbonate content	0.97				
Hickory-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Too acid	0.68	Low strength	0.00	Too clayey	0.57
	Too clayey	0.98	Shrink-swell	0.99		
	Water erosion	0.99				
943D3: Seaton-----	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Slope	0.04
	Organic matter content	0.88				
	Too acid	0.88				
Timula-----	Fair		Fair		Fair	
	Organic matter content	0.12	Low strength	0.78	Slope	0.04
	Water erosion	0.37				
	Carbonate content	0.92				
943F2: Seaton-----	Fair		Poor		Poor	
	Organic matter content	0.88	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00		
	Water erosion	0.90				
Timula-----	Fair		Poor		Poor	
	Organic matter content	0.24	Slope	0.00	Slope	0.00
	Water erosion	0.37				
	Carbonate content	0.92				
943G: Seaton-----	Fair		Poor		Poor	
	Organic matter content	0.88	Slope	0.00	Slope	0.00
	Too acid	0.88	Low strength	0.00		
	Water erosion	0.90				
Timula-----	Fair		Poor		Poor	
	Organic matter content	0.24	Slope	0.00	Slope	0.00
	Water erosion	0.37	Low strength	0.22		
	Carbonate content	0.92				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
957D2: Elco-----	Fair		Poor		Fair	
	Organic matter content	0.02	Low strength	0.00	Slope	0.04
	Water erosion	0.68	Shrink-swell	0.33	Too clayey	0.57
	Too acid	0.95	Depth to saturated zone	0.98	Depth to saturated zone	0.98
	Too clayey	0.98				
Atlas-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.50	Depth to saturated zone	0.04	Depth to saturated zone	0.04
	Too acid	0.99	Shrink-swell	0.12	Slope	0.04
	Water erosion	0.99				
957D3: Elco-----	Fair		Poor		Fair	
	Organic matter content	0.02	Low strength	0.00	Slope	0.04
	Water erosion	0.90	Shrink-swell	0.59	Too clayey	0.57
	Too clayey	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.98
	Too acid	0.99				
Atlas-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Depth to saturated zone	0.04	Depth to saturated zone	0.04
	Too acid	0.88	Shrink-swell	0.12	Slope	0.04
	Water erosion	0.99				
1083A: Wabash-----	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
	Too acid	0.97	Shrink-swell	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
1107A: Sawmill-----	Fair		Poor		Poor	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
3074A: Radford-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.68	Depth to saturated zone	0.14		
3107+: Sawmill-----	Fair		Poor		Poor	
	Too clayey	0.98	Low strength	0.00	Depth to saturated zone	0.00
			Depth to saturated zone	0.00	Too clayey	0.93
			Shrink-swell	0.89		

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A: Sawmill-----	Fair Too clayey	0.98	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to saturated zone Too clayey	0.00 0.98
3284A: Tice-----	Fair Organic matter content Too clayey	0.50 0.98	Fair Depth to saturated zone Low strength Shrink-swell	0.12 0.22 0.87	Fair Depth to saturated zone Too clayey	0.12 0.64
3302A: Ambraw-----	Fair Too clayey Too acid	0.68 0.97	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.95	Poor Depth to saturated zone Too clayey	0.00 0.56
3333A: Wakeland-----	Fair Water erosion Organic matter content	0.37 0.50	Fair Depth to saturated zone	0.04	Fair Depth to saturated zone	0.04
3334A: Birds-----	Fair Water erosion Organic matter content	0.68 0.88	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.99	Poor Depth to saturated zone	0.00
3415A: Orion-----	Fair Water erosion	0.37	Poor Low strength Depth to saturated zone	0.00 0.14	Fair Depth to saturated zone	0.14
3451A: Lawson-----	Fair Organic matter content Water erosion	0.50 0.68	Poor Low strength Depth to saturated zone	0.00 0.14	Fair Depth to saturated zone	0.14
3646L: Fluvaquents-----	Fair Water erosion Organic matter content	0.68 0.88	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.99	Poor Depth to saturated zone	0.00
3725A: Otter-----	Good		Poor Depth to saturated zone Low strength	0.00 0.00	Poor Depth to saturated zone	0.00

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3725A: Lawson-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.68	Depth to saturated zone	0.14		
7070A: Beaucoup-----	Fair		Poor		Poor	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.76
			Shrink-swell	0.87		
7083A: Wabash-----	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
	Too acid	0.97	Shrink-swell	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
7107A: Sawmill-----	Fair		Poor		Poor	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.93
			Shrink-swell	0.87		
7183A: Shaffton-----	Fair		Fair		Fair	
	Organic matter content	0.12	Depth to saturated zone	0.32	Depth to saturated zone	0.32
7284A: Tice-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Depth to saturated zone	0.14
	Too acid	0.97	Depth to saturated zone	0.14	Too clayey	0.64
	Too clayey	0.98	Shrink-swell	0.87		
7302A: Ambraw-----	Fair		Poor		Poor	
	Too acid	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
			Shrink-swell	0.98		
7451A: Lawson-----	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Depth to saturated zone	0.14
			Depth to saturated zone	0.14		
7674A: Dozaville-----	Fair		Poor		Good	
	Water erosion	0.68	Low strength	0.00		



Table 17a.--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	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
8D2: Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
8D3: Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
8F: Hickory-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
8F3: Hickory-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
8G: Hickory-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.27	Very limited Depth to water	1.00
51A: Muscatune-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.18	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
51B: Muscatune-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.34	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
61A: Atterberry-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
61B: Atterberry-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
68A: Sable-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	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: Littleton-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.82	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
86A: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.02	Very limited Depth to water	1.00
86B: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
86B2: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.21	Very limited Depth to water	1.00
86C2: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
86D2: Osco-----	Somewhat limited Seepage Slope	0.72 0.02	Not limited		Very limited Depth to water	1.00
87A: Dickinson-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.67	Very limited Depth to water	1.00
87B: Dickinson-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.67	Very limited Depth to water	1.00
88A: Sparta-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.76	Very limited Depth to water	1.00
88B: Sparta-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.76	Very limited Depth to water	1.00
119E2: Elco-----	Somewhat limited Seepage  Slope	0.72  0.18	Somewhat limited Depth to saturated zone Piping	0.68  0.05	Very limited Depth to water	1.00
125A: Selma-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 1.00 0.94 0.06	Very limited Cutbanks cave	1.00
134B: Camden-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.98 0.08	Very limited Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	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
148A: Proctor-----	Very limited Seepage	1.00	Somewhat limited Piping	0.58	Very limited Depth to water	1.00
148B: Proctor-----	Very limited Seepage	1.00	Somewhat limited Piping	0.58	Very limited Depth to water	1.00
206A: Thorp-----	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.36	Somewhat limited Cutbanks cave	0.10
249A: Edinburg-----	Somewhat limited Seepage	0.54	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.47	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
259C2: Assumption-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.01	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.98 0.14 0.10
261A: Niota-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 1.00 0.48 0.06	Very limited Cutbanks cave	1.00
262A: Denrock-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage Piping	1.00 1.00 0.10	Very limited Cutbanks cave	1.00
268A: Mt. Carroll-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
268B: Mt. Carroll-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
271C2: Timula-----	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
271D2: Timula-----	Somewhat limited Seepage Slope	0.72 0.02	Very limited Piping	1.00	Very limited Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	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
272A: Edgington-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.68	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
274A: Seaton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
274B: Seaton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
274C2: Seaton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
274C3: Seaton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.91	Very limited Depth to water	1.00
274D2: Seaton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.91	Very limited Depth to water	1.00
274D3: Seaton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
275A: Joy-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.73	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
277B: Port Byron-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
277C2: Port Byron-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.88	Very limited Depth to water	1.00
278A: Stronghurst-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
278B: Stronghurst-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
279A: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	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
279B: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
279C2: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water Slow refill	1.00 0.28
279C3: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.10	Very limited Depth to water	1.00
279D2: Rozetta-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
280B: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.21	Very limited Depth to water	1.00
280C2: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
280D2: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
280D3: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
430A: Raddle-----	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
430B: Raddle-----	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
505G: Dunbarton-----	Very limited Depth to bedrock Slope Seepage	1.00 0.99 0.47	Very limited Thin layer Hard to pack	1.00 0.51	Very limited Depth to water	1.00
671A: Biggsville-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.89	Very limited Depth to water Slow refill	1.00 0.28
671B: Biggsville-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.89	Very limited Depth to water Slow refill	1.00 0.28

Table 17a.--Water Management--Continued

Map symbol and soil name	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
671C2: Biggsville-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.66	Very limited Depth to water	1.00
672A: Crescent-----	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.17	Very limited Depth to water	1.00
672B: Crescent-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.17	Very limited Depth to water	1.00
675A: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.28	Very limited Depth to water	1.00
675B: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.17	Very limited Depth to water Slow refill	1.00 0.28
675C2: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
678A: Mannon-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.79	Very limited Depth to water Slow refill	1.00 0.28
678B: Mannon-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.78	Very limited Depth to water Slow refill	1.00 0.28
689A: Coloma-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.97	Very limited Depth to water	1.00
689B: Coloma-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.97	Very limited Depth to water	1.00
689D: Coloma-----	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.97	Very limited Depth to water	1.00
724D2: Rozetta-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Elco-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone Piping	0.68 0.02	Very limited Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	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
802B: Orthents, loamy-----	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
864: Pits, quarries-----	Not rated		Not rated		Not rated	
936D2: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
936D3: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
936F: Fayette-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
936G: Fayette-----	Somewhat limited Slope Seepage	0.97 0.72	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Slope Seepage	0.97 0.72	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
937D2: Seaton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.91	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
937D3: Seaton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.91	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Table 17a.--Water Management--Continued

Map symbol and soil name	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
937F: Seaton-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
937G: Seaton-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
Hickory-----	Somewhat limited Slope Seepage	0.97 0.72	Somewhat limited Piping	0.27	Very limited Depth to water	1.00
943D3: Seaton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.89	Very limited Depth to water	1.00
Timula-----	Somewhat limited Seepage Slope	0.72 0.02	Very limited Piping	1.00	Very limited Depth to water	1.00
943F2: Seaton-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
Timula-----	Somewhat limited Seepage Slope	0.72 0.36	Very limited Piping	1.00	Very limited Depth to water	1.00
943G: Seaton-----	Somewhat limited Slope Seepage	0.97 0.72	Somewhat limited Piping	0.88	Very limited Depth to water	1.00
Timula-----	Somewhat limited Slope Seepage	0.97 0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
957D2: Elco-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
Atlas-----	Somewhat limited Slope	0.02	Very limited Depth to saturated zone Hard to pack	1.00 0.38	Very limited Depth to water	1.00
957D3: Elco-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00



Table 17a.--Water Management--Continued

Map symbol and soil name	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
957D3: Atlas-----	Somewhat limited Slope	0.02	Very limited Depth to saturated zone Hard to pack	1.00  0.35	Very limited Depth to water	1.00
1083A: Wabash-----	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 1.00	Very limited Slow refill Cutbanks cave	1.00 0.10
1107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3074A: Radford-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.40	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3107+: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3284A: Tice-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3302A: Ambraw-----	Somewhat limited Seepage	0.54	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.06	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3333A: Wakeland-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3334A: Birds-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.97	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	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
3415A: Orion-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  1.00	Very limited Cutbanks cave Slow refill	1.00  0.28
3451A: Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.75	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
3646L: Fluvaquents-----	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone Piping	1.00  1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
3725A: Otter-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00  1.00 0.75	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.75	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
7070A: Beaucoup-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00  1.00 0.05	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
7083A: Wabash-----	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00  1.00 1.00	Very limited Slow refill Cutbanks cave	1.00  0.10
7107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00  1.00	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
7183A: Shaffton-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00  0.35	Somewhat limited Cutbanks cave	0.10
7284A: Tice-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28  0.10

Table 17a.--Water Management--Continued

Map symbol and soil name	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
7302A: Ambraw-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.37	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
7451A: Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.64	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
7674A: Dozaville-----	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Depth to water	1.00

Table 17b.--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	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.88	Somewhat limited Slope	0.96
8D3: Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.50	Somewhat limited Slope	0.96
8F: Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
8F3: Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.50	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
51A: Muscatune-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
51B: Muscatune-----	Somewhat limited Slope	0.26	Very limited Water erosion Depth to saturated zone Slope	1.00 1.00 0.26	Very limited Depth to saturated zone	1.00
61A: Atterberry-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
61B: Atterberry-----	Somewhat limited Slope	0.26	Very limited Water erosion Depth to saturated zone Slope	1.00 1.00 0.26	Very limited Depth to saturated zone	1.00

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A: Sable-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
81A: Littleton-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
86A: Osco-----	Not limited		Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone	0.13
86B: Osco-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
86B2: Osco-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
86C2: Osco-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Somewhat limited Depth to saturated zone	0.13
86D2: Osco-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.96 0.13
87A: Dickinson-----	Not limited		Very limited Too sandy Water erosion	1.00 0.12	Very limited Cutbanks cave	1.00
87B: Dickinson-----	Somewhat limited Slope	0.26	Very limited Too sandy Slope Water erosion	1.00 0.26 0.12	Very limited Cutbanks cave	1.00
88A: Sparta-----	Not limited		Very limited Too sandy	1.00	Very limited Cutbanks cave	1.00
88B: Sparta-----	Somewhat limited Slope	0.26	Somewhat limited Slope	0.26	Very limited Cutbanks cave	1.00

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119E2: Elco-----	Very limited Slope	1.00	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.99
125A: Selma-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.88	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00
134B: Camden-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Very limited Cutbanks cave	1.00
148A: Proctor-----	Not limited		Very limited Water erosion	1.00	Not limited	
148B: Proctor-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
206A: Thorp-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
249A: Edinburg-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
259C2: Assumption-----	Somewhat limited Slope	0.99	Very limited Water erosion Depth to saturated zone Slope	1.00 1.00 0.99	Somewhat limited Depth to saturated zone	0.99
261A: Niota-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 1.00 0.41

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
262A: Denrock-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 1.00 0.18
268A: Mt. Carroll-----	Not limited		Very limited Water erosion	1.00	Not limited	
268B: Mt. Carroll-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
271C2: Timula-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Not limited	
271D2: Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
272A: Edgington-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
274A: Seaton-----	Not limited		Very limited Water erosion	1.00	Not limited	
274B: Seaton-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
274C2: Seaton-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Not limited	
274C3: Seaton-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Not limited	
274D2: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
274D3: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
275A: Joy-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
277B: Port Byron-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
277C2: Port Byron-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Not limited	
278A: Stronghurst-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
278B: Stronghurst-----	Somewhat limited Slope	0.26	Very limited Water erosion Depth to saturated zone Slope	1.00 1.00 0.26	Very limited Depth to saturated zone	1.00
279A: Rozetta-----	Not limited		Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone	0.13
279B: Rozetta-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
279C2: Rozetta-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Somewhat limited Depth to saturated zone	0.13
279C3: Rozetta-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Somewhat limited Depth to saturated zone	0.13
279D2: Rozetta-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.96 0.13



Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280B: Fayette-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
280C2: Fayette-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Not limited	
280D2: Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
280D3: Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
430A: Raddle-----	Not limited		Very limited Water erosion	1.00	Not limited	
430B: Raddle-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Not limited	
505G: Dunbarton-----	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Water erosion Slope Depth to bedrock	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
671A: Biggsville-----	Not limited		Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone	0.13
671B: Biggsville-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
671C2: Biggsville-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Somewhat limited Depth to saturated zone	0.13
672A: Crescent-----	Not limited		Somewhat limited Water erosion	0.88	Very limited Cutbanks cave	1.00
672B: Crescent-----	Somewhat limited Slope	0.26	Somewhat limited Water erosion Slope	0.88 0.26	Very limited Cutbanks cave	1.00

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
675A: Greenbush-----	Not limited		Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone	0.13
675B: Greenbush-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
675C2: Greenbush-----	Somewhat limited Slope	0.99	Very limited Water erosion Slope	1.00 0.99	Somewhat limited Depth to saturated zone	0.13
678A: Mannon-----	Not limited		Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone	0.13
678B: Mannon-----	Somewhat limited Slope	0.26	Very limited Water erosion Slope	1.00 0.26	Somewhat limited Depth to saturated zone	0.13
689A: Coloma-----	Not limited		Very limited Too sandy	1.00	Very limited Cutbanks cave	1.00
689B: Coloma-----	Somewhat limited Slope	0.37	Very limited Too sandy Slope	1.00 0.37	Very limited Cutbanks cave	1.00
689D: Coloma-----	Very limited Slope	1.00	Very limited Too sandy Slope	1.00 1.00	Very limited Cutbanks cave Slope	1.00 0.37
724D2: Rozetta-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.96 0.13
Elco-----	Very limited Slope	1.00	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Slope	0.99 0.96
802B: Orthents, loamy----	Somewhat limited Slope	0.37	Very limited Water erosion Slope	1.00 0.37	Not limited	
864: Pits, quarries-----	Not rated		Not rated		Not rated	

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
936D2:						
Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.88	Somewhat limited Slope	0.96
936D3:						
Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.50	Somewhat limited Slope	0.96
936F:						
Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
936G:						
Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
937D2:						
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.88	Somewhat limited Slope	0.96
937D3:						
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
Hickory-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 0.50	Somewhat limited Slope	0.96
937F:						
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
937F: Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
937G: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
943D3: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Somewhat limited Slope	0.96
943F2: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
957D2: Elco-----	Very limited Slope	1.00	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Slope	0.99 0.96
Atlas-----	Very limited Slope	1.00	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.96 0.02
957D3: Elco-----	Very limited Slope	1.00	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Slope	0.99 0.96

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
957D3: Atlas-----	Very limited Slope	1.00	Very limited		Very limited	
			Water erosion	1.00	Depth to	1.00
			Slope	1.00	saturated zone	0.96
			Depth to	1.00	Too clayey	0.02
	saturated zone					
1083A: Wabash-----	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to	1.00	Depth to	1.00
			saturated zone		saturated zone	
			Water erosion	0.50	Flooding	0.80
			Too clayey	0.50		
1107A: Sawmill-----	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to	1.00	Depth to	1.00
			saturated zone		saturated zone	
			Water erosion	0.50	Flooding	0.80
3074A: Radford-----	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to	1.00
			Depth to	1.00	saturated zone	
			saturated zone		Flooding	0.80
3107+: Sawmill-----	Not limited		Very limited		Very limited	
			Depth to	1.00	Depth to	1.00
			saturated zone		saturated zone	
			Water erosion	0.88	Flooding	0.80
3107A: Sawmill-----	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to	1.00	Depth to	1.00
			saturated zone		saturated zone	
			Water erosion	0.50	Flooding	0.80
3284A: Tice-----	Not limited		Very limited		Very limited	
			Depth to	1.00	Depth to	1.00
			saturated zone		saturated zone	
			Water erosion	0.88	Flooding	0.80
3302A: Ambraw-----	Not limited		Very limited		Very limited	
			Depth to	1.00	Ponding	1.00
			saturated zone		Depth to	1.00
			Water erosion	0.50	saturated zone	
					Flooding	0.80
3333A: Wakeland-----	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to	1.00
			Depth to	1.00	saturated zone	
			saturated zone		Flooding	0.80

Table 17b.--Water Management-Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3334A: Birds-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.80
3415A: Orion-----	Not limited		Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.80
3451A: Lawson-----	Not limited		Very limited Depth to saturated zone Water erosion	1.00 0.88	Very limited Depth to saturated zone Flooding	1.00 0.80
3646L: Fluvaquents-----	Not limited		Very limited Water erosion Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.80
3725A: Otter-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.88	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.80
Lawson-----	Not limited		Very limited Depth to saturated zone Water erosion	1.00 0.88	Very limited Depth to saturated zone Flooding	1.00 0.80
7070A: Beaucoup-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.88	Very limited Ponding Depth to saturated zone	1.00 1.00
7083A: Wabash-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.50
7107A: Sawmill-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.88	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7183A: Shaffton-----	Not limited		Very limited Depth to saturated zone Water erosion	1.00 0.50	Very limited Depth to saturated zone	1.00
7284A: Tice-----	Not limited		Very limited Depth to saturated zone Water erosion	1.00 0.88	Very limited Depth to saturated zone Flooding	1.00 0.60
7302A: Ambraw-----	Not limited		Very limited Ponding Depth to saturated zone Water erosion	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00
7451A: Lawson-----	Not limited		Very limited Depth to saturated zone Water erosion	1.00 0.88	Very limited Depth to saturated zone	1.00
7674A: Dozaville-----	Not limited		Very limited Water erosion	1.00	Very limited Cutbanks cave	1.00

Table 17c.--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	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Water erosion Slope	1.00 0.98
8D3: Hickory-----	Very limited Slope Too acid	1.00 0.32	Somewhat limited Slope	0.98
8F: Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope Water erosion	1.00 1.00
8F3: Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope Water erosion	1.00 1.00
51A: Muscatune-----	Very limited Depth to saturated zone Too acid	1.00 0.04	Very limited Depth to saturated zone	1.00
51B: Muscatune-----	Very limited Depth to saturated zone Too acid Slope	1.00 0.08 0.02	Very limited Depth to saturated zone	1.00
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
61B: Atterberry-----	Very limited Depth to saturated zone Slope	1.00 0.02	Very limited Depth to saturated zone Water erosion	1.00 1.00



Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
68A: Sable-----	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
81A: Littleton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
86A: Osco-----	Not limited		Not limited	
86B: Osco-----	Somewhat limited Slope	0.02	Not limited	
86B2: Osco-----	Somewhat limited Too acid Slope	0.92 0.02	Very limited Water erosion	1.00
86C2: Osco-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
86D2: Osco-----	Very limited Slope Too acid	1.00 0.08	Very limited Water erosion Slope	1.00 0.98
87A: Dickinson-----	Somewhat limited Droughty	0.04	Somewhat limited Droughty	0.54
87B: Dickinson-----	Somewhat limited Droughty	0.04	Somewhat limited Droughty	0.54
88A: Sparta-----	Somewhat limited Too acid Droughty	0.08 0.01	Very limited Sandy surface layer Wind erosion Droughty	1.00 1.00 1.00
88B: Sparta-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Sandy surface layer Wind erosion Droughty	1.00 1.00 1.00
119E2: Elco-----	Very limited Slope Depth to saturated zone Perchs slowly	1.00 0.68 0.61	Very limited Slope Water erosion	1.00 1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
125A: Selma-----	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
134B: Camden-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Water erosion	1.00
148A: Proctor-----	Not limited		Not limited	
148B: Proctor-----	Somewhat limited Slope	0.02	Not limited	
206A: Thorp-----	Very limited Ponding Depth to saturated zone Percs slowly	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
249A: Edinburg-----	Very limited Ponding Depth to saturated zone Percs slowly	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
259C2: Assumption-----	Somewhat limited Slope Depth to saturated zone Percs slowly	0.98 0.68 0.61	Somewhat limited Slope	0.06
261A: Niota-----	Very limited Percs slowly Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 0.08	Very limited Ponding Depth to saturated zone	1.00 1.00
262A: Denrock-----	Very limited Percs slowly Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
268A: Mt. Carroll-----	Not limited		Not limited	
268B: Mt. Carroll-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
271C2: Timula-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
271D2: Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
272A: Edgington-----	Very limited Ponding Depth to saturated zone Too acid Percs slowly	1.00 1.00 0.44 0.31	Very limited Ponding Depth to saturated zone	1.00 1.00
274A: Seaton-----	Not limited		Not limited	
274B: Seaton-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00
274C2: Seaton-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
274C3: Seaton-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
274D2: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
274D3: Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
275A: Joy-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
277B: Port Byron-----	Somewhat limited Too acid Slope	0.08 0.02	Not limited	
277C2: Port Byron-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
278A: Stronghurst-----	Very limited Depth to saturated zone Too acid	1.00  0.08	Very limited Depth to saturated zone	1.00
278B: Stronghurst-----	Very limited Depth to saturated zone Too acid Slope	1.00  0.08 0.02	Very limited Depth to saturated zone Water erosion	1.00  1.00
279A: Rozetta-----	Somewhat limited Too acid	0.08	Not limited	
279B: Rozetta-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00
279C2: Rozetta-----	Somewhat limited Slope Too acid	0.98 0.08	Very limited Water erosion Slope	1.00 0.06
279C3: Rozetta-----	Somewhat limited Slope Too acid	0.98 0.08	Very limited Water erosion Slope	1.00 0.06
279D2: Rozetta-----	Very limited Slope Too acid	1.00 0.08	Very limited Water erosion Slope	1.00 0.98
280B: Fayette-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Water erosion	1.00
280C2: Fayette-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
280D2: Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
280D3: Fayette-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
430A: Raddle-----	Not limited		Not limited	

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
430B: Raddle-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00
505G: Dunbarton-----	Very limited Depth to bedrock Droughty Slope Percs slowly	1.00 1.00 1.00 0.32	Very limited Depth to hard bedrock Droughty Slope Water erosion	1.00 1.00 1.00 1.00
671A: Biggsville-----	Not limited		Not limited	
671B: Biggsville-----	Somewhat limited Slope	0.02	Not limited	
671C2: Biggsville-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06
672A: Crescent-----	Not limited		Not limited	
672B: Crescent-----	Somewhat limited Slope	0.02	Not limited	
675A: Greenbush-----	Somewhat limited Too acid	0.08	Not limited	
675B: Greenbush-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Water erosion	1.00
675C2: Greenbush-----	Somewhat limited Slope Too acid	0.98 0.08	Very limited Water erosion Slope	1.00 0.06
678A: Mannon-----	Not limited		Not limited	
678B: Mannon-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00
689A: Coloma-----	Somewhat limited Droughty Too acid	0.70 0.32	Very limited Sandy surface layer Wind erosion Droughty	1.00 1.00 1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
689B: Coloma-----	Somewhat limited		Very limited	
	Droughty	0.70	Sandy surface	1.00
	Too acid	0.32	layer	
	Slope	0.08	Wind erosion	1.00
			Droughty	1.00
689D: Coloma-----	Very limited		Very limited	
	Slope	1.00	Sandy surface	1.00
	Droughty	0.76	layer	
	Too acid	0.32	Wind erosion	1.00
			Droughty	1.00
			Slope	0.60
724D2: Rozetta-----	Very limited		Very limited	
	Slope	1.00	Water erosion	1.00
	Too acid	0.08	Slope	0.98
Elco-----	Very limited		Very limited	
	Slope	1.00	Water erosion	1.00
	Depth to saturated zone	0.68	Slope	0.98
	Percs slowly	0.61		
802B: Orthents, loamy----	Somewhat limited		Very limited	
	Percs slowly	0.31	Water erosion	1.00
	Slope	0.08		
864: Pits, quarries-----	Not rated		Not rated	
936D2: Fayette-----	Very limited		Very limited	
	Slope	1.00	Water erosion	1.00
	Too acid	0.01	Slope	0.98
Hickory-----	Very limited		Very limited	
	Slope	1.00	Water erosion	1.00
	Too acid	0.32	Slope	0.98
936D3: Fayette-----	Very limited		Very limited	
	Slope	1.00	Water erosion	1.00
			Slope	0.98
Hickory-----	Very limited		Somewhat limited	
	Slope	1.00	Slope	0.98
	Too acid	0.32		
936F: Fayette-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.08	Water erosion	1.00
Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.32	Water erosion	1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
936G:				
Fayette-----	Very limited Slope Too acid	1.00 0.08	Very limited Slope Water erosion	1.00 1.00
Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope Water erosion	1.00 1.00
937D2:				
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Water erosion Slope	1.00 0.98
937D3:				
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
Hickory-----	Very limited Slope Too acid	1.00 0.32	Somewhat limited Water erosion Slope	1.00 0.98
937F:				
Seaton-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00
Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope Water erosion	1.00 1.00
937G:				
Seaton-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00
Hickory-----	Very limited Slope Too acid	1.00 0.32	Very limited Slope Water erosion	1.00 1.00
943D3:				
Seaton-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
Timula-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.98
943F2:				
Seaton-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
943F2: Timula-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00
Timula-----	Very limited Slope	1.00	Very limited Slope Water erosion	1.00 1.00
957D2: Elco-----	Very limited Slope Depth to saturated zone Percs slowly Too acid	1.00 0.68 0.61 0.01	Very limited Water erosion Slope	1.00 0.98
Atlas-----	Very limited Percs slowly Depth to saturated zone Slope Too acid	1.00 1.00 1.00 0.01	Very limited Water erosion Depth to saturated zone Slope Droughty	1.00 1.00 0.98 0.04
957D3: Elco-----	Very limited Slope Depth to saturated zone Percs slowly Too acid	1.00 0.68 0.61 0.01	Very limited Water erosion Slope	1.00 0.98
Atlas-----	Very limited Percs slowly Depth to saturated zone Slope Too acid	1.00 1.00 1.00 0.01	Very limited Water erosion Depth to saturated zone Slope Droughty	1.00 1.00 0.98 0.04
1083A: Wabash-----	Very limited Percs slowly Ponding Depth to saturated zone Frequent flooding Too acid	1.00 1.00 1.00 0.80 0.08	Very limited Ponding Flooding Depth to saturated zone Droughty	1.00 1.00 1.00 0.90
1107A: Sawmill-----	Very limited Ponding Depth to saturated zone Frequent flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00



Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3074A: Radford-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3107+: Sawmill-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3107A: Sawmill-----	Very limited Ponding Depth to saturated zone Frequent flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3284A: Tice-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3302A: Ambraw-----	Very limited Ponding Depth to saturated zone Frequent flooding Percs slowly	1.00 1.00 0.80 0.31	Very limited Ponding Flooding Depth to saturated zone Droughty	1.00 1.00 1.00 0.01
3333A: Wakeland-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3334A: Birds-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3415A: Orion-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
3451A: Lawson-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3646L: Fluvaquents-----	Very limited Ponding Depth to saturated zone Frequent flooding	1.00 1.00 0.80	Very limited Ponding	1.00
3725A: Otter-----	Very limited Ponding Depth to saturated zone Frequent flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
Lawson-----	Very limited Depth to saturated zone Frequent flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
7070A: Beaucoup-----	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
7083A: Wabash-----	Very limited Percs slowly Ponding Depth to saturated zone Too acid	1.00 1.00 1.00 0.08	Very limited Ponding Depth to saturated zone Droughty	1.00 1.00 0.90
7107A: Sawmill-----	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
7183A: Shaffton-----	Very limited Depth to saturated zone	1.00	Not limited	
7284A: Tice-----	Very limited Depth to saturated zone Occasional flooding	1.00 0.60	Very limited Depth to saturated zone	1.00
7302A: Ambraw-----	Very limited Ponding Depth to saturated zone Percs slowly	1.00 1.00 0.31	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 17c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7451A: Lawson-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
7674A: Dozaville-----	Not limited		Not limited	

Table 18.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated. The first entry under USDA texture and Unified and AASHTO classifications is the representative value, which is the one that occurs most commonly)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8D2: Hickory-----	0-6	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	6-51	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-80	30-50	15-30
	51-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8D3: Hickory-----	0-5	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	5-30	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	30-40	Clay loam, loam, gravelly clay loam	CL	A-6, A-4	0-1	0-5	85-100	70-100	65-95	50-85	30-50	8-30
	40-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8F: Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-53	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	53-58	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8F3: Hickory-----	0-6	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	6-42	Clay loam, silty clay	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	42-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8G: Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	40-58	Loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
51A: Muscatune-----	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	4-14
	16-22	Silty clay loam, silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	35-40	14-20
	22-46	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	46-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18
51B: Muscatune-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	4-14
	14-42	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	35-46	14-24
	42-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18
61A: Atterberry-----	0-9	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	6-16
	9-17	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18
	17-48	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	37-46	16-25
	48-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18
61B: Atterberry-----	0-9	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	6-16
	9-13	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18
	13-48	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	95-100	37-46	16-25
	48-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
<b>68A:</b>												
Sable-----	0-17	Silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	95-100	95-100	41-65	15-35
	17-23	Silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	95-100	95-100	41-65	15-35
	23-60	Silty clay loam, silt loam	CL, CH	A-7-6	0	0	100	100	95-100	95-100	40-55	20-35
<b>81A:</b>												
Littleton-----	0-9	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	7-20
	9-32	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	7-20
	32-60	Silt loam	CL, CL-ML	A-6, A-4, A-7	0	0	100	100	95-100	80-100	20-45	5-20
<b>86A:</b>												
Osc-----	0-13	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-20
	13-38	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	100	95-100	40-50	15-25
	38-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-25
<b>86B:</b>												
Osc-----	0-14	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-20
	14-55	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	100	95-100	40-50	15-25
	55-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-25
<b>86B2:</b>												
Osc-----	0-8	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	8-42	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	42-51	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-17
	51-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18
<b>86C2:</b>												
Osc-----	0-9	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	10-20
	9-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-50	15-25
	34-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	7-25

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
86D2: Osc-----	0-8	Silt loam, silty clay loam	CL	A-6	0	0	100	100	97-100	97-100	40-50	15-25
	8-51	Silty clay loam	CL	A-7-6	0	0	100	100	97-100	97-100	40-50	15-25
	51-60	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	97-100	93-100	35-45	15-25
87A: Dickinson-----	0-8	Sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	100	63-76	24-50	17-26	3-11
	8-20	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-4, A-2-4	0	0	100	100	63-87	24-50	17-26	4-11
	20-31	Sandy loam, fine sandy loam	SC-SM, SC, SM	A-4	0	0	100	100	63-87	24-50	17-26	4-12
	31-36	Loamy sand, loamy fine sand, fine sand	SM, SC-SM, SP-SM	A-2-4, A-3	0	0	100	100	55-80	7-25	9-15	NP-5
	36-60	Sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	7-25	9-14	NP-5
87B: Dickinson-----	0-9	Sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	63-76	24-50	19-25	2-8
	9-17	Sandy loam, fine sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	63-87	24-50	19-25	3-9
	17-33	Sandy loam, fine sandy loam	SC-SM, SC	A-4	0	0	100	100	65-87	25-50	17-22	4-9
	33-41	Loamy sand, loamy fine sand, fine sand	SM, SC-SM	A-2-4, A-3	0	0	100	100	58-80	7-25	10-20	NP-5
	41-60	Sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	7-25	6-16	NP-5
88A: Sparta-----	0-17	Loamy sand	SM	A-2-4, A-4	0	0	85-100	85-100	50-95	10-50	0-14	NP.
	17-31	Loamy sand, fine sand, sand	SM, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP.
	31-72	Stratified sand to loamy sand	SP-SM, SM, SP	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4
88B: Sparta-----	0-14	Loamy sand	SM	A-2-4, A-4	0	0	85-100	85-100	50-95	10-50	0-14	NP.
	14-47	Loamy sand, fine sand, sand	SM, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP.
	47-72	Stratified sand to loamy sand	SP-SM, SM, SP	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
119E2:												
Elco-----	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-15
	2-9	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-15
	9-32	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	85-100	25-45	10-30
	32-60	Silty clay loam, clay loam, clay	CL	A-7, A-6	0	0	100	90-100	85-95	75-95	25-45	10-30
125A:												
Selma-----	0-23	Loam	CL	A-6, A-4	0	0	100	95-100	80-100	55-85	25-35	7-17
	23-53	Loam, clay loam, sandy loam, silty clay loam	CL, ML, SC	A-6	0	0	100	95-100	80-95	38-85	24-36	11-19
	53-60	Stratified sand to silt loam	SC-SM, CL, CL-ML, SC	A-2-4, A-2, A-4	0	0	90-100	85-100	60-90	30-70	15-35	1-20
134B:												
Camden-----	0-9	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	6-15
	9-15	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-35	6-15
	15-34	Silty clay loam, silt loam	CL	A-6	0	0	100	97-100	95-100	90-100	35-46	14-24
	34-40	Clay loam, sandy loam, silt loam	CL, ML, SC	A-6, A-4	0	0-5	90-100	90-100	70-85	45-70	25-33	8-14
	40-60	Stratified loamy sand to sandy loam	SM, SC-SM	A-2-4	0	0-5	90-100	70-100	35-60	14-40	19-25	1-7
148A:												
Proctor-----	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	11-28	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	25-50	10-25
	28-33	Loam, clay loam, sandy loam	SC-SM, CL, CL-ML, SC	A-6, A-2, A-4, A-7	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to sandy loam	SC, CL, CL-ML, SC-SM	A-2, A-4, A-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20
148B:												
Proctor-----	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	11-28	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	25-50	10-25
	28-33	Loam, clay loam, sandy loam	SC-SM, CL, CL-ML, SC	A-6, A-2, A-4, A-7	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to sandy loam	SC, CL, CL-ML, SC-SM	A-2, A-4, A-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20



Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
206A:												
Thorp-----	0-14	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	95-100	90-100	30-49	7-18
	14-19	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	95-100	90-100	28-37	7-17
	19-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	95-100	90-100	32-46	15-25
	43-50	Sandy clay loam, clay loam, silt loam	SC, CL	A-6, A-4, A-7	0	0	90-100	90-100	80-100	40-90	29-42	10-21
	50-65	Stratified sandy loam to silty clay loam	SC, CL-ML, ML, SC-SM, SM	A-4, A-2	0	0	85-100	85-100	65-90	20-85	16-27	2-21
249A:												
Edinburg-----	0-16	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	35-50	16-25
	16-55	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-70	25-45
	55-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
259C2:												
Assumption-----	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	8-20
	8-24	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	10-30
	24-60	Clay loam, silty clay loam	CL	A-6, A-7	0	0-5	100	95-100	90-100	70-90	35-50	10-30
261A:												
Niota-----	0-9	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
	9-16	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
	16-27	Silty clay, clay, silty clay loam	CH	A-7-5	0	0	100	100	95-100	95-100	52-76	26-42
	27-36	Silty clay loam, silt loam, loam	CL, CH	A-7-6, A-6	0	0	100	100	95-100	95-100	38-52	17-25
	36-49	Silt loam, loam, loamy fine sand	CL, ML, SC, SM	A-4, A-2, A-6, A-7	0	0	100	95-100	60-90	20-90	18-48	NP-20
	49-60	Stratified loamy sand to silt loam	SM, SC, CL, ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	70-95	40-80	15-55	20-25	NP-10
262A:												
Denrock-----	0-13	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	30-40	9-19
	13-36	Silty clay, silty clay loam, clay	CH, MH	A-7-6	0	0	100	95-100	95-100	90-100	50-75	25-40
	36-40	Clay loam, loam	CL	A-6, A-4	0	0	100	95-100	90-100	60-80	20-40	8-25
	40-60	Sand, stratified sand to loam, sandy loam	SP-SM, SM, ML, CL-ML	A-2-4, A-3, A-4	0	0	100	90-100	50-75	5-60	0-20	NP-7

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>268A:</b>												
Mt. Carroll-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	29-39	9-15
	7-10	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	26-34	9-15
	10-55	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	27-38	12-19
	55-60	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	26-35	10-16
<b>268B:</b>												
Mt. Carroll-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	29-39	9-15
	7-10	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	26-34	9-15
	10-55	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	27-38	12-19
	55-60	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	26-35	10-16
<b>271C2:</b>												
Timula-----	0-7	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	7-22	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	22-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
<b>271D2:</b>												
Timula-----	0-7	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	7-22	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	22-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
<b>272A:</b>												
Edgington-----	0-20	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	3-13
	20-31	Silt loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
	31-55	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	55-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
<b>274A:</b>												
Seaton-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	9-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	60-80	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
<b>274B:</b>												
Seaton-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	9-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	60-80	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
<b>274C2:</b>												
Seaton-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
	7-47	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	47-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
274C3:												
Seaton-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	8-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	52-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
274D2:												
Seaton-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	8-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	52-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
274D3:												
Seaton-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	7-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	52-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
275A:												
Joy-----	0-15	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-40	5-20
	15-51	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-40	10-20
	51-60	Silt loam, loam, very fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	100	90-100	40-100	20-35	5-15
277B:												
Port Byron-----	0-13	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-15
	13-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-20
	52-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-15
	60-77	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-30	5-15
	77-89	Silt	CL-ML, ML	A-4	0	0	100	100	95-100	90-100	15-25	NP-5
277C2:												
Port Byron-----	0-9	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	9-48	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	48-60	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	25-40	7-17
278A:												
Stronghurst-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	8-47	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-20
278B:												
Stronghurst-----	0-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	10-48	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-55	20-35
	48-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
279A:												
Rozetta-----	0-4	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	4-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-50	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	50-60	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
279B:												
Rozetta-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	7-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-55	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	55-60	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
279C2:												
Rozetta-----	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	8-56	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	56-80	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
279C3:												
Rozetta-----	0-6	Silty clay loam	CL, ML	A-7, A-6	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	7-20
279D2:												
Rozetta-----	0-6	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	6-49	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	49-60	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
280B:												
Fayette-----	0-9	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	9-39	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C2:												
Fayette-----	0-8	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
280D2:												
Fayette-----	0-6	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	6-48	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D3:												
Fayette-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	8-36	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	36-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
430A:												
Raddle-----	0-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	4-15
	21-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	4-15
430B:												
Raddle-----	0-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	4-15
	13-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	4-15
505G:												
Dunbarton-----	0-2	Silt loam	CL	A-6, A-4	0	0-7	85-100	75-100	75-100	60-95	25-35	7-15
	2-10	Silty clay loam, silt loam	CL, CH	A-7-6, A-6	0	0-8	70-100	70-100	70-100	70-95	35-60	15-35
	10-16	Clay, silty clay	CH, CL	A-7-6	0	0-8	70-100	70-100	70-100	70-95	45-90	25-60
	16-60	Unweathered bedrock, weathered bedrock	---	---	---	---	---	---	---	---	---	---
671A:												
Biggsville-----	0-13	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	13-53	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	53-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-17
671B:												
Biggsville-----	0-13	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	13-53	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	53-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-17
671C2:												
Biggsville-----	0-9	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	31-43	11-18
	9-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	27-37	12-17

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>672A:</b>												
Crescent-----	0-15	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15
	15-46	Clay loam, loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	100	100	60-100	35-85	20-35	5-20
	46-60	Sand, loamy sand	SC, SC-SM, SM, SP-SM	A-2-4, A-3	0	0	100	100	50-75	5-30	15-25	NP-10
<b>672B:</b>												
Crescent-----	0-7	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15
	7-11	Loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	15-35	4-15
	11-41	Clay loam, loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	100	100	60-100	35-85	20-35	5-20
	41-60	Sand, loamy sand	SC, SC-SM, SM, SP-SM	A-2-4, A-3	0	0	100	100	50-75	5-30	5-25	NP-10
<b>675A:</b>												
Greenbush-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	9-16	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	16-46	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	46-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
<b>675B:</b>												
Greenbush-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	60-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
<b>675C2:</b>												
Greenbush-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	6-46	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	46-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
<b>678A:</b>												
Mannon-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	7-18
	7-12	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-18
	12-59	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	8-20
	59-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-17
<b>678B:</b>												
Mannon-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	25-40	7-18
	7-10	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-18
	10-59	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	25-40	8-20
	59-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	7-17

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
689A: Coloma-----	0-10	Sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-80	2-15	0-14	NP.
	10-27	Sand, loamy sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-75	2-30	0-14	NP.
	27-60	Stratified sand to loamy sand	SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-100	2-40	0-14	NP.
689B: Coloma-----	0-10	Sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-80	2-15	0-14	NP.
	10-27	Sand, loamy sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-75	2-30	0-14	NP.
	27-60	Stratified sand to loamy sand	SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-100	2-40	0-14	NP.
689D: Coloma-----	0-12	Sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-75	2-15	0-14	NP.
	12-25	Sand, loamy sand	SP-SM, SP, SM	A-3, A-2	0	0	85-100	85-100	50-75	2-30	0-14	NP.
	25-60	Stratified sand to loamy sand	SM, SP, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-100	2-40	0-14	NP.
724D2: Rozetta-----	0-6	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	6-49	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	49-60	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
Elco-----	0-6	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-15
	6-28	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	85-100	25-45	10-30
	28-60	Silty clay loam, loam, clay	CL	A-7, A-6	0	0	100	90-100	80-100	60-95	25-50	10-30
802B: Orthents, loamy	0-6	Loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
	6-60	Loam, silt loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
864. Pits, quarries												
936D2: Fayette-----	0-4	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	4-8	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
	8-60	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>936D2:</b>												
Hickory-----	0-8	Silt loam	CL	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	8-12	Silt loam	CL	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-51	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-80	30-50	15-30
	51-60	Loam, sandy loam, clay loam	CL-ML, CL	A-6, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
<b>936D3:</b>												
Fayette-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	8-36	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	36-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
Hickory-----	0-5	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	5-30	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	30-40	Clay loam, loam, gravelly clay loam	CL	A-6, A-4	0-1	0-5	85-100	70-100	65-95	50-85	30-50	8-30
	40-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
<b>936F:</b>												
Fayette-----	0-4	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	4-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	10-60	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	90-100	75-95	20-35	3-15
	4-10	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	90-100	75-95	20-35	3-15
	10-50	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	95-100	75-100	70-95	65-80	30-50	15-30
	50-60	Loam, clay loam, sandy loam	CL-ML, CL	A-6, A-4	0-1	0-5	85-100	75-95	70-95	60-80	20-40	5-20
<b>936G:</b>												
Fayette-----	0-4	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	4-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	10-60	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25



Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
936G:												
Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	90-100	75-95	20-35	3-15
	4-10	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	90-100	75-95	20-35	3-15
	10-50	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	95-100	75-100	70-95	65-80	30-50	15-30
	50-60	Loam, clay loam, sandy loam	CL-ML, CL	A-6, A-4	0-1	0-5	85-100	75-95	70-95	60-80	20-40	5-20
937D2:												
Seaton-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	8-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	52-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
Hickory-----	0-6	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	6-51	Clay loam, silty clay loam, gravelly clay loam, loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-80	30-50	15-30
	51-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
937D3:												
Seaton-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	8-52	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	52-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
Hickory-----	0-5	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	5-30	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	30-40	Clay loam, loam, gravelly clay loam	CL	A-6, A-4	0-1	0-5	85-100	70-100	65-95	50-85	30-50	8-30
	40-60	Loam, clay loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
937F:												
Seaton-----	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	7-47	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	47-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
<b>937F:</b>												
Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-53	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	53-58	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
<b>937G:</b>												
Seaton-----	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	6-44	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	44-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	40-58	Loam, gravelly clay loam	CL, SC, SC-SM, CL-ML	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL-ML, CL, SC, SC-SM	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
<b>943D3:</b>												
Seaton-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
	4-39	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	39-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
Timula-----	0-23	Silt loam	CL-ML	A-4	0	0	100	100	95-100	85-100	21-31	6-12
	23-60	Silt loam, silt	CL-ML, ML	A-4	0	0	100	100	95-100	85-100	20-30	6-12
<b>943F2:</b>												
Seaton-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	5-15
	6-49	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	49-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
Timula-----	0-6	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	6-28	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	28-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
943G: Seaton-----	0-9	Silt loam	CL, CL-ML, ML	A-6, A-4, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	9-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
Timula-----	0-28	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	28-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
957D2: Elco-----	0-4	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	31-41	13-19
	4-7	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	29-38	13-19
	7-25	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	33-46	16-25
	25-60	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	100	90-100	80-100	60-95	37-56	18-33
Atlas-----	0-3	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	75-95	33-45	13-19
	3-5	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	75-95	29-37	12-17
	5-28	Clay, silty clay, silty clay loam, clay loam	CH	A-7-6	0	0	100	95-100	90-100	75-95	45-57	25-33
	28-60	Clay, silty clay, silty clay loam, clay loam	CH	A-7-6	0	0	100	95-100	90-100	75-95	48-57	27-33
957D3: Elco-----	0-7	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	36-45	17-23
	7-27	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	33-46	16-25
	27-39	Silty clay loam, clay loam, silt loam	CL	A-7-6, A-6	0	0	100	90-100	85-95	75-95	33-46	16-25
	39-60	Clay loam, silty clay loam, loam, silty clay	CL	A-7-6, A-6	0	0	100	90-100	80-100	60-95	37-56	18-33
Atlas-----	0-5	Silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	75-95	42-53	21-29
	5-9	Silty clay loam, silty clay, clay loam	CH	A-7-6	0	0	100	95-100	90-100	75-95	48-57	27-33
	9-39	Silty clay, silty clay loam, clay loam	CH	A-7-6	0	0	100	95-100	90-100	75-95	48-57	27-33
	39-60	Clay loam, silty clay loam, clay	CH	A-7-6	0	0	100	90-100	80-100	60-95	41-57	21-33

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1083A:												
Wabash-----	0-15	Silty clay	CH	A-7-6	0	0	100	100	95-100	95-100	50-75	30-50
	15-60	Silty clay, clay	CH	A-7-6	0	0	100	100	95-100	95-100	52-78	30-55
1107A:												
Sawmill-----	0-29	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	29-38	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	38-60	Silty clay loam clay loam, loam	CL	A-6, A-4, A-7	0	0	100	100	85-100	70-95	25-50	8-25
3074A:												
Radford-----	0-12	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	85-100	28-36	5-15
	12-33	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	85-100	28-36	5-15
	33-60	Silty clay loam, silt loam, clay loam	CL	A-6, A-7	0	0	100	100	85-100	70-95	35-50	15-25
3107+:												
Sawmill-----	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
	11-36	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	36-53	Silty clay loam, clay loam, loam	CL	A-6, A-4, A-7	0	0	100	100	95-100	70-95	25-50	8-25
	53-60	Silty clay loam, clay loam, silt loam	CL	A-6, A-4, A-7	0	0	100	100	85-100	70-95	20-50	8-30
3107A:												
Sawmill-----	0-26	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-100	30-50	15-30
	26-54	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-100	30-50	15-30
	54-72	Silty clay loam, clay loam, silt loam	CL, SC	A-6, A-4, A-7-6	0	0	100	90-100	75-100	40-95	20-50	8-30
3284A:												
Tice-----	0-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-20
	14-39	Silty clay loam silt loam	CL, CH	A-7	0	0	100	100	95-100	85-95	40-55	15-30
	39-72	Stratified silt loam to loam	CL-ML, CL	A-4, A-6, A-7	0	0	100	100	60-95	55-80	25-45	5-20
3302A:												
Ambraw-----	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	85-95	85-95	30-45	10-20
	8-39	Clay loam, clay, loam	CL, CH	A-7-6, A-6	0	0	100	100	80-90	60-80	35-55	15-30
	39-50	Clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	90-100	85-95	40-80	30-50	10-25
	50-60	Stratified clay loam to sandy clay loam	CL, ML, SC, SM	A-4, A-6	0	0	100	90-100	80-90	40-80	20-40	NP-17

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
3333A: Wakeland-----	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	8-68	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	68-80	Silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	60-100	20-30	5-10
3334A: Birds-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	9-37	Silt loam, silty clay	CL	A-6, A-4	0	0	100	100	90-100	85-95	25-40	8-20
	37-60	Silt loam, stratified sandy loam to loam to silt loam to clay loam to silty clay loam	CL, CL-ML, SC	A-4, A-6	0	0	100	100	65-95	35-85	25-35	5-12
3415A: Orion-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	80-100	25-35	4-12
	7-22	Stratified very fine sand to silt loam	CL-ML, CL	A-4	0	0	100	100	90-100	70-80	20-30	4-10
	22-60	Silt loam, silty clay loam	CL, CL-ML	A-6, A-4	0	0	100	100	85-100	85-100	20-40	4-18
	60-80	Stratified sand to silt loam	CL-ML, CL	A-4	0	0	80-100	80-100	80-100	80-100	20-30	4-10
3451A: Lawson-----	0-14	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	85-100	20-35	5-15
	14-33	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	90-100	85-100	20-40	5-20
	33-80	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	90-100	60-100	30-40	10-20
3646L: Fluvaquents-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	9-37	Silt loam, silty clay loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	85-95	25-40	5-20
	37-60	Stratified sandy loam to silt loam	CL, CL-ML, SC	A-4, A-6	0	0	100	100	65-95	35-85	25-35	5-12

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index	
			Unified	AASHTO	>10	3-10	4	10	40	200			
					inches	inches							
					Pct	Pct					Pct		
3725A:	In												
Otter-----	0-43	Silt loam	CL	A-6, A-4, A-7	0	0	100	95-100	90-100	80-100	25-45	7-20	
	43-50	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-100	30-45	10-20	
	50-60	Silt loam, sandy loam, silty clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4, A-7	0	0	90-100	80-100	55-95	45-85	25-45	5-20	
Lawson-----	0-14	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	85-100	20-35	5-15	
	14-33	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	90-100	85-100	20-40	5-20	
	33-80	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	90-100	60-100	30-40	10-20	
7070A:													
Beaucoup-----	0-16	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	37-57	18-24	
	16-43	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	37-49	19-25	
	43-50	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-6, A-4, A-7-6	0	0	100	100	95-100	60-100	26-43	10-21	
	50-60	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-6, A-4 A-7-6	0	0	100	100	95-100	60-100	22-43	6-21	
7083A:													
Wabash-----	0-15	Silty clay	CH	A-7-6	0	0	100	100	95-100	95-100	50-75	30-50	
	15-60	Silty clay, clay	CH	A-7-6	0	0	100	100	95-100	95-100	52-78	30-55	
7107A:													
Sawmill-----	0-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30	
	10-35	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30	
	35-60	Silty clay loam, clay loam, silt loam	CL	A-6, A-4, A-7	0	0	100	90-100	85-100	70-95	20-50	8-30	
7183A:													
Shaffton-----	0-19	Loam	CL, SC	A-6, A-4	0	0	100	82-100	63-87	43-71	27-37	10-17	
	19-27	Loam	CL, SC	A-6, A-4	0	0	100	82-100	63-87	43-71	27-37	10-19	
	27-37	Clay loam, loam, silty clay loam	CL, SC	A-6, A-7-6	0	0	96-100	77-100	60-95	41-86	35-43	16-24	
	37-60	Stratified sandy clay loam to sandy loam, stratified gravelly sandy loam to silty clay loam	SC, CL, ML	A-6, A-2-6, A-7-6	0	0	82-100	50-100	44-94	22-86	29-41	13-23	

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
7284A:												
Tice-----	0-14	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	80-95	30-45	10-20
	14-80	Silty clay loam, silt loam	CL, CH	A-7	0	0	100	100	95-100	85-95	40-55	15-30
7302A:												
Ambraw-----	0-20	Clay loam	CL	A-6, A-7-6	0	0	100	100	85-95	55-80	30-45	10-20
	20-36	Clay loam, clay, loam	CL, CH	A-7-6, A-6	0	0	100	100	80-90	60-80	35-55	15-30
	36-45	Clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	90-100	85-95	40-80	30-50	10-25
	45-60	Stratified clay loam to sandy clay loam	CL, ML, SC, SM	A-4, A-6	0	0	100	90-100	80-90	40-80	20-40	NP-17
7451A:												
Lawson-----	0-14	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	85-100	20-40	5-20
	14-33	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	90-100	85-100	20-30	5-10
	33-80	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	60-100	20-45	10-25
7674A:												
Dozaville-----	0-14	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	30-35	10-15
	14-54	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	80-100	30-35	10-15
	54-61	Very fine sandy loam, loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-100	20-35	5-15
	61-80	Stratified fine sandy loam to very fine sand	SC, CL	A-4, A-6	0	0	100	100	85-100	20-60	0-20	NP-5

Table 19.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>8D2:</b>														
Hickory-----	0-6	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	6-51	15-45	20-58	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	51-60	20-50	18-65	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.2	.28	.32			
<b>8D3:</b>														
Hickory-----	0-5	15-40	25-60	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.0-1.0	.28	.32	4	6	48
	5-30	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	30-40	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-60	20-50	20-65	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
<b>8F:</b>														
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-53	15-45	20-61	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	53-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
<b>8F3:</b>														
Hickory-----	0-6	15-40	25-60	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.32	4	6	48
	6-42	15-45	20-60	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	42-60	20-50	18-65	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.2	.28	.32			
<b>8G:</b>														
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-40	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
<b>51A:</b>														
Muscadune-----	0-16	2-7	66-74	24-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-22	2-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	22-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	46-60	2-7	66-83	15-30	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.2	.49	.49			
<b>51B:</b>														
Muscadune-----	0-14	2-7	66-83	24-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	14-42	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	42-60	2-7	66-83	15-30	1.35-1.60	0.6-2	0.19-0.26	0.0-5.9	0.0-0.2	.49	.49			



Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>61A:</b>														
Atterberry-----	0-9	2-7	68-78	15-27	1.25-1.45	0.6-2	0.19-0.26	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-17	2-7	69-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	17-48	2-7	60-73	25-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-60	2-7	66-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>61B:</b>														
Atterberry-----	0-9	2-7	68-78	15-27	1.25-1.45	0.6-2	0.19-0.26	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-13	2-7	69-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	13-48	2-7	60-74	25-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-60	2-7	45-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>68A:</b>														
Sable-----	0-17	0-7	58-73	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	5.0-6.0	.24	.24	5	6	48
	17-23	0-7	58-73	27-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-4.0	.24	.24			
	23-60	0-7	58-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
<b>81A:</b>														
Littleton-----	0-9	2-15	58-80	18-27	1.20-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
	9-32	0-15	58-78	22-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.49	.49			
	32-60	10-20	58-72	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.49	.49			
<b>86A:</b>														
Osc-----	0-13	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	13-38	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	38-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>86B:</b>														
Osc-----	0-14	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	14-55	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	55-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>86B2:</b>														
Osc-----	0-8	0-7	66-80	20-26	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-42	0-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.0-1.0	.37	.37			
	42-51	0-7	66-83	15-30	1.35-1.55	0.6-2	0.18-0.23	0.0-2.9	0.0-0.5	.49	.49			
	51-60	0-7	66-83	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
<b>86C2:</b>														
Osc-----	0-9	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	9-34	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	34-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>86D2:</b>														
Osc-----	0-8	0-7	67-80	20-27	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-51	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	51-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>87A:</b>														
Dickinson-----	0-8	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.15	.15	4	3	86
	8-20	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.5	.15	.15			
	20-31	52-75	10-38	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.24			
	31-36	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	36-60	75-95	1-20	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.05			
<b>87B:</b>														
Dickinson-----	0-9	52-75	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.15	.15	4	3	86
	9-17	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.5	.15	.15			
	17-33	52-75	10-38	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.24			
	33-41	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	41-60	75-95	1-20	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.05			
<b>88A:</b>														
Sparta-----	0-17	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	17-31	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.10	.10			
	31-72	52-100	0-29	3-16	1.50-1.70	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
<b>88B:</b>														
Sparta-----	0-14	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	14-47	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.10	.10			
	47-72	52-100	0-29	3-16	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.1-1.0	.17	.17			
<b>119E2:</b>														
Elco-----	0-2	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	2-9	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	0.0-0.5	.49	.49			
	9-32	0-7	58-77	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	32-60	15-35	20-60	25-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.0-0.2	.28	.28			
<b>125A:</b>														
Selma-----	0-23	30-50	35-49	17-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	6	48
	23-53	15-50	27-49	18-30	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32	.32			
	53-60	60-90	5-25	1-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.28	.28			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>134B:</b>														
Camden-----	0-9	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-15	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	0.1-0.5	.49	.49			
	15-34	2-7	58-71	22-35	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.1-0.5	.37	.37			
	34-40	30-50	28-50	18-30	1.45-1.65	0.6-2	0.11-0.22	0.0-2.9	0.0-0.5	.32	.32			
	40-60	65-80	14-25	5-20	1.40-1.70	0.6-6	0.12-0.22	0.0-2.9	0.0-0.5	.28	.28			
<b>148A:</b>														
Proctor-----	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-28	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
<b>148B:</b>														
Proctor-----	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-28	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
<b>206A:</b>														
Thorpe-----	0-14	2-15	58-78	20-27	1.15-1.35	0.2-0.6	0.22-0.24	0.0-2.9	4.0-6.0	.28	.28	5	6	48
	14-19	3-15	60-79	18-25	1.30-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	19-43	3-15	50-75	22-35	1.35-1.55	0.06-0.2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	43-50	10-55	15-72	18-30	1.40-1.60	0.06-0.2	0.15-0.22	3.0-5.9	0.0-0.5	.32	.32			
	50-65	15-75	1-80	5-30	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.28	.28			
<b>249A:</b>														
Edinburg-----	0-16	0-7	58-73	27-35	1.10-1.30	0.6-2	0.21-0.24	6.0-8.9	3.0-6.0	.24	.24	5	6	48
	16-55	0-7	47-65	35-46	1.20-1.40	0.06-0.2	0.13-0.20	6.0-8.9	0.2-1.0	.37	.37			
	55-60	0-7	63-78	22-30	1.30-1.50	0.2-2	0.18-0.22	3.0-5.9	0.0-0.2	.49	.49			
<b>259C2:</b>														
Assumption-----	0-8	0-7	66-73	20-27	1.25-1.45	0.6-2	0.23-0.25	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	8-24	0-7	58-66	25-35	1.20-1.40	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	24-60	20-30	25-50	25-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.0-0.5	.28	.28			
<b>261A:</b>														
Niota-----	0-9	5-20	53-70	20-27	1.20-1.35	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	3	6	48
	9-16	7-25	50-75	18-25	1.30-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	16-27	2-10	30-60	38-60	1.40-1.60	0.0015-0.06	0.09-0.13	6.0-8.9	0.0-1.0	.32	.32			
	27-36	2-30	30-73	25-40	1.40-1.60	0.2-0.6	0.17-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-49	1-75	1-87	12-25	1.50-1.70	0.2-2	0.08-0.20	3.0-5.9	0.0-0.5	.32	.32			
	49-60	15-80	0-80	5-20	1.50-1.70	2-6	0.11-0.22	0.0-2.9	0.1-0.5	.28	.28			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>262A:</b>														
Denrock-----	0-13	10-30	43-72	18-27	1.20-1.35	0.2-0.6	0.22-0.24	0.0-2.9	3.0-5.0	.37	.37	3	6	48
	13-36	2-20	20-60	38-60	1.40-1.60	0.0015-0.06	0.09-0.13	3.0-5.9	0.0-2.0	.37	.37			
	36-40	20-46	20-45	25-40	1.40-1.60	0.2-0.6	0.15-0.19	3.0-5.9	0.0-0.5	.37	.37			
	40-60	40-100	0-35	1-20	1.60-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.1	.15	.15			
<b>268A:</b>														
Mt. Carroll-----	0-7	0-7	60-85	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	5	56
	7-10	0-7	60-85	15-22	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	10-55	0-7	60-85	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	55-60	0-7	60-85	16-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>268B:</b>														
Mt. Carroll-----	0-7	0-7	60-85	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	5	56
	7-10	0-7	60-85	15-22	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	10-55	0-7	60-85	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	55-60	0-7	60-85	16-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>271C2:</b>														
Timula-----	0-7	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-22	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
	22-60	1-10	72-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.55	.55			
<b>271D2:</b>														
Timula-----	0-7	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-22	1-10	72-85	10-18	1.30-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
	22-60	1-10	72-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.55	.55			
<b>272A:</b>														
Edgington-----	0-20	2-7	66-83	15-27	1.20-1.40	0.6-2	0.22-0.26	0.0-2.9	4.5-6.0	.28	.28	5	6	48
	20-31	2-7	66-83	15-27	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	31-55	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	55-60	2-7	66-83	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
<b>274A:</b>														
Seaton-----	0-9	1-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-60	1-7	66-81	18-27	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	60-80	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
<b>274B:</b>														
Seaton-----	0-9	1-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-60	1-7	66-81	18-27	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	60-80	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>274C2:</b>														
Seaton-----	0-7	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	7-47	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	47-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
<b>274C3:</b>														
Seaton-----	0-8	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-52	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	52-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>274D2:</b>														
Seaton-----	0-8	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-52	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	52-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
<b>274D3:</b>														
Seaton-----	0-7	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.2-1.0	.43	.43	5	5	56
	7-52	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	52-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
<b>275A:</b>														
Joy-----	0-15	0-7	68-84	15-25	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	15-51	0-7	66-82	18-27	1.15-1.25	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.43	.43			
	51-60	0-45	45-88	12-23	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.49	.49			
<b>277B:</b>														
Port Byron-----	0-13	1-7	66-82	18-27	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	13-52	1-7	66-82	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	52-60	1-7	66-85	15-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	60-77	1-7	75-88	11-18	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
	77-89	1-7	81-94	5-12	1.25-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-0.2	.55	.55			
<b>277C2:</b>														
Port Byron-----	0-9	0-7	66-82	18-27	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-48	0-7	66-82	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	48-60	0-7	66-82	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.49	.49			
<b>278A:</b>														
Stronghurst-----	0-8	1-5	68-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-47	1-4	61-77	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	47-60	1-4	69-79	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>278B:</b>														
Stronghurst-----	0-10	1-5	66-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	10-48	1-4	58-78	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	48-60	1-4	66-80	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279A:</b>														
Rozetta-----	0-4	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	4-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.2-0.5	.49	.49			
	11-50	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	50-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279B:</b>														
Rozetta-----	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	11-55	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	55-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>279C2:</b>														
Rozetta-----	0-8	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-56	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	56-80	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279C3:</b>														
Rozetta-----	0-6	0-7	58-72	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	6-33	0-7	58-73	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.5	.37	.37			
	33-60	0-7	66-84	15-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279D2:</b>														
Rozetta-----	0-6	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-49	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	49-60	0-7	66-80	20-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>280B:</b>														
Fayette-----	0-9	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-39	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	39-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280C2:</b>														
Fayette-----	0-8	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
280D2:														
Fayette-----	0-6	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280D3:														
Fayette-----	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	8-36	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	36-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
430A:														
Raddle-----	0-21	2-15	61-80	18-24	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	21-80	2-15	61-80	18-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.49	.49			
430B:														
Raddle-----	0-13	2-15	61-80	18-24	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	13-60	2-15	61-80	18-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.49	.49			
505G:														
Dunbarton-----	0-2	0-30	50-70	15-27	1.10-1.60	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	2	6	48
	2-10	0-25	45-65	24-40	1.05-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	10-16	0-20	20-50	40-80	1.25-1.55	0.2-0.6	0.09-0.13	6.0-8.9	0.0-0.2	.20	.20			
	16-60	---	---	---	---	0.06-2	---	---	---	---	---			
671A:														
Biggsville-----	0-13	0-7	66-82	18-27	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	13-53	0-7	68-82	18-25	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.43	.43			
	53-80	0-7	66-85	15-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
671B:														
Biggsville-----	0-13	0-7	66-82	18-27	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	13-53	0-7	68-82	18-25	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.43	.43			
	53-80	0-7	66-85	15-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
671C2:														
Biggsville-----	0-9	0-7	66-82	18-27	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	9-60	0-7	68-82	18-25	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
672A:														
Crescent-----	0-15	25-55	23-65	10-22	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.24	.24	4	5	56
	15-46	25-65	3-55	20-32	1.40-1.60	0.6-2	0.13-0.19	0.0-2.9	0.5-1.0	.32	.32			
	46-60	70-100	0-28	2-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>672B:</b>														
<b>Crescent</b> -----	0-7	25-55	23-65	10-22	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.24	.24	4	5	56
	7-11	25-55	23-65	10-22	1.35-1.55	0.6-2	0.17-0.22	0.0-2.9	0.5-1.0	.24	.24			
	11-41	25-65	3-55	20-32	1.40-1.60	0.6-2	0.13-0.19	0.0-2.9	0.5-1.0	.32	.32			
	41-60	70-100	0-28	2-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			
<b>675A:</b>														
<b>Greenbush</b> -----	0-9	0-7	68-85	15-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	9-16	0-7	66-85	15-27	1.30-1.35	0.6-2	0.18-0.20	0.0-2.9	0.5-1.0	.43	.43			
	16-46	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	46-60	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>675B:</b>														
<b>Greenbush</b> -----	0-14	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	14-60	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	60-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>675C2:</b>														
<b>Greenbush</b> -----	0-6	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	6-46	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	46-60	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>678A:</b>														
<b>Mannon</b> -----	0-7	1-7	---	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	7-12	1-7	---	15-22	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	12-59	1-7	---	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.43	.43			
	59-80	1-7	---	16-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>678B:</b>														
<b>Mannon</b> -----	0-7	0-7	71-85	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	7-10	0-7	71-85	15-22	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.43	.43			
	10-59	0-7	66-82	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.43	.43			
	59-80	0-7	69-84	16-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>689A:</b>														
<b>Coloma</b> -----	0-10	85-100	0-25	0-10	1.35-1.65	6-20	0.05-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	250
	10-27	75-100	0-25	0-10	1.35-1.65	6-20	0.05-0.12	0.0-2.9	0.0-0.5	.15	.15			
	27-60	70-90	2-28	2-12	1.50-1.65	2-20	0.03-0.08	0.0-2.9	0.0-0.5	.15	.15			
<b>689B:</b>														
<b>Coloma</b> -----	0-10	85-100	0-25	0-10	1.35-1.65	6-20	0.05-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	10-27	75-100	0-25	0-10	1.35-1.65	6-20	0.05-0.12	0.0-2.9	0.0-0.5	.15	.15			
	27-60	70-90	2-28	2-12	1.50-1.65	2-20	0.03-0.08	0.0-2.9	0.0-0.5	.15	.15			



Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>689D:</b>														
Coloma-----	0-12	85-100	0-25	0-10	1.35-1.65	6-20	0.05-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	250
	12-25	85-100	0-25	0-10	1.35-1.65	6-20	0.05-0.12	0.0-2.9	0.0-0.5	.02	.02			
	25-60	70-90	2-28	2-12	1.50-1.65	2-20	0.03-0.08	0.0-2.9	0.0-0.5	.02	.02			
<b>724D2:</b>														
Rozetta-----	0-6	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	6-49	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	49-60	0-7	63-80	20-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Elco-----	0-6	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-28	0-7	58-77	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	28-60	15-35	20-60	25-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.2	.28	.28			
<b>802B:</b>														
Orthents, loamy----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43	5	6	48
	6-60	28-45	25-50	22-30	1.70-1.80	0.2-0.6	0.16-0.20	3.0-5.9	0.2-1.0	.43	.43			
<b>864.</b>														
Pits, quarries														
<b>936D2:</b>														
Fayette-----	0-4	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	4-8	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
	8-60	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
Hickory-----	0-8	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	8-12	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.32	.37			
	12-51	15-45	20-58	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	51-60	20-50	18-65	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.2	.28	.32			
<b>936D3:</b>														
Fayette-----	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37	4	6	48
	8-36	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	36-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
Hickory-----	0-5	15-40	25-60	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.0-1.0	.28	.32	4	6	48
	5-30	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	30-40	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-60	20-50	20-65	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
<b>936F:</b>														
Fayette-----	0-4	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.43	.43	5	6	48
	4-10	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
	10-60	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>936F:</b>														
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-10	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	10-50	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	50-60	30-45	25-55	15-30	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
<b>936G:</b>														
Fayette-----	0-4	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.43	.43	5	6	48
	4-10	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
	10-60	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-10	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	10-50	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	50-60	30-45	25-55	15-30	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
<b>937D2:</b>														
Seaton-----	0-8	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-52	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	52-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Hickory-----	0-6	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	6-51	15-45	20-58	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	51-60	20-50	18-65	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.2	.28	.32			
<b>937D3:</b>														
Seaton-----	0-8	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-52	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	52-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Hickory-----	0-5	15-40	25-60	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.0-1.0	.28	.32	4	6	48
	5-30	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	30-40	15-45	20-60	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-60	20-50	20-65	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
<b>937F:</b>														
Seaton-----	0-7	1-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-47	1-7	66-81	18-27	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	47-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-53	15-45	20-61	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	53-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
937G:														
Seaton-----	0-6	1-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-44	1-7	66-81	18-27	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	44-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-40	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
943D3:														
Seaton-----	0-4	0-7	71-84	11-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.43	.43	4	5	56
	4-39	0-7	72-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	39-60	0-7	74-84	11-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
Timula-----	0-23	0-7	75-89	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	0.5-1.0	.55	.55	4	5	56
	23-60	0-7	75-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.55	.55			
943F2:														
Seaton-----	0-6	1-7	71-84	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	6-49	1-7	66-81	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	49-60	1-7	68-89	10-25	1.20-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.55	.55			
Timula-----	0-6	0-7	75-89	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	6-28	0-7	75-89	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43			
	28-60	0-7	75-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.55	.55			
943G:														
Seaton-----	0-9	0-7	71-89	10-22	1.10-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-60	0-7	66-81	18-27	1.20-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
Timula-----	0-28	0-7	75-89	10-18	1.30-1.60	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	28-60	0-7	75-89	10-18	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.55	.55			
957D2:														
Elco-----	0-4	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	4-7	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	0.0-0.5	.49	.49			
	7-25	0-7	58-77	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	25-60	10-35	20-60	25-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.2	.32	.32			
Atlas-----	0-3	5-30	43-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	3.0-5.9	1.0-3.0	.32	.32	3	6	48
	3-5	5-30	43-75	18-24	1.30-1.50	0.2-0.6	0.20-0.25	3.0-5.9	0.0-0.5	.37	.37			
	5-28	10-35	20-60	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.32	.32			
	28-60	10-35	20-60	38-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.32	.32			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>957D3:</b>														
Elco-----	0-7	0-7	62-74	25-33	1.20-1.35	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	7-27	0-7	61-75	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	27-39	10-35	30-65	23-35	1.40-1.60	0.2-0.6	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
	39-60	15-35	20-60	25-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.5	.43	.43			
<b>Atlas-----</b>	0-5	10-35	20-60	30-40	1.35-1.55	0.06-0.2	0.11-0.16	6.0-8.9	0.5-1.0	.37	.37	2	6	48
	5-9	10-35	20-55	38-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-0.5	.37	.37			
	9-39	10-35	20-60	38-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-0.5	.32	.32			
	39-60	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-0.2	.37	.37			
<b>1083A:</b>														
Wabash-----	0-15	1-10	44-59	40-46	1.25-1.45	0.01-0.06	0.12-0.14	9.0-25.0	2.0-4.0	.24	.24	5	4	86
	15-60	1-10	30-59	40-60	1.20-1.45	0.01-0.06	0.08-0.12	9.0-25.0	1.0-2.0	.28	.28			
<b>1107A:</b>														
Sawmill-----	0-29	2-9	56-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	29-38	3-10	55-70	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	1.0-3.0	.32	.32			
	38-60	5-25	40-70	25-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	0.0-2.0	.32	.32			
<b>3074A:</b>														
Radford-----	0-12	0-15	58-82	18-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	12-33	0-15	58-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-2.0	.49	.49			
	33-60	0-22	35-71	24-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
<b>3107+:</b>														
Sawmill-----	0-11	0-15	58-82	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	11-36	2-9	59-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	1.0-3.0	.28	.28			
	36-53	3-25	45-72	25-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	0.0-2.0	.32	.32			
	53-60	5-25	40-77	18-35	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-1.0	.32	.32			
<b>3107A:</b>														
Sawmill-----	0-26	2-9	59-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-5.0	.28	.28	5	6	48
	26-54	3-25	50-72	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	1.0-4.0	.32	.32			
	54-72	5-25	40-76	18-35	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
<b>3284A:</b>														
Tice-----	0-14	1-15	50-72	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-3.0	.32	.32	5	7	38
	14-39	1-15	50-75	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
	39-72	1-15	55-84	15-30	1.40-1.60	0.6-2	0.11-0.18	3.0-5.9	0.0-1.0	.32	.32			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>3302A:</b>														
Ambraw-----	0-8	5-15	50-68	27-35	1.25-1.45	0.6-2	0.15-0.19	3.0-5.9	2.0-3.0	.28	.28	5	6	48
	8-39	20-40	18-55	25-42	1.30-1.55	0.2-0.6	0.08-0.19	3.0-5.9	0.5-2.0	.28	.28			
	39-50	20-60	10-56	24-35	1.40-1.65	0.2-2	0.10-0.15	3.0-5.9	0.5-1.0	.28	.28			
	50-60	20-60	10-62	18-30	1.35-1.65	0.2-2	0.11-0.22	0.0-2.9	0.5-1.0	.28	.28			
<b>3333A:</b>														
Wakeland-----	0-8	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-68	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.2-0.8	.55	.55			
	68-80	5-45	45-75	10-20	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.1-0.5	.55	.55			
<b>3334A:</b>														
Birds-----	0-9	0-40	50-80	15-27	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-37	0-40	45-80	18-30	1.35-1.45	0.6-2	0.20-0.24	3.0-5.9	0.5-1.0	.49	.49			
	37-60	0-75	15-75	15-27	1.35-1.45	0.6-2	0.12-0.20	0.0-2.9	0.5-1.0	.49	.49			
<b>3415A:</b>														
Orion-----	0-7	1-15	67-89	10-18	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-22	2-90	10-88	9-18	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.55	.55			
	22-60	2-15	55-88	10-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	3.0-8.0	.37	.37			
	60-80	2-90	10-88	9-18	1.20-1.40	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37			
<b>3451A:</b>														
Lawson-----	0-14	0-15	58-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	14-33	0-15	55-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.55-1.65	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.49	.49			
<b>3646L:</b>														
Fluvaquents-----	0-9	1-15	58-84	15-27	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-37	1-15	55-81	18-30	1.35-1.45	0.6-2	0.20-0.24	3.0-5.9	0.5-1.0	.49	.49			
	37-60	1-45	49-84	15-27	1.35-1.45	0.6-2	0.12-0.20	0.0-2.9	0.5-1.0	.49	.49			
<b>3725A:</b>														
Otter-----	0-43	0-15	58-82	18-27	1.10-1.25	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.32	.32	5	6	48
	43-50	0-15	58-82	18-27	1.20-1.45	0.6-2	0.17-0.22	3.0-5.9	1.0-3.0	.49	.49			
	50-60	5-45	32-80	15-28	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.49	.49			
<b>Lawson-----</b>	0-14	0-15	58-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	14-33	0-15	55-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.55-1.65	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.49	.49			

Table 19.--Physical 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			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>7070A:</b>														
Beaucoup-----	0-16	1-15	50-72	27-35	1.15-1.35	0.6-2	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	7	38
	16-43	1-15	50-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-2.0	.32	.32			
	43-50	5-60	30-80	15-30	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.49	.49			
	50-60	5-60	10-85	10-30	1.40-1.65	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.49	.49			
<b>7083A:</b>														
Wabash-----	0-15	1-10	44-59	40-46	1.25-1.45	0.01-0.06	0.12-0.14	9.0-25.0	2.0-4.0	.24	.24	5	4	86
	15-60	1-10	30-59	40-60	1.20-1.45	0.01-0.06	0.08-0.12	9.0-25.0	1.0-2.0	.28	.28			
<b>7107A:</b>														
Sawmill-----	0-10	2-9	56-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-5.0	.28	.28	5	7	38
	10-35	3-10	55-70	27-35	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	1.0-3.0	.32	.32			
	35-60	5-25	45-75	20-35	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
<b>7183A:</b>														
Shaffton-----	0-19	30-50	30-50	18-27	1.20-1.45	0.6-2	0.20-0.24	0.0-2.9	1.5-4.0	.28	.28	5	6	48
	19-27	30-50	30-50	18-27	1.20-1.45	0.6-2	0.20-0.24	0.0-2.9	0.8-1.5	.28	.28			
	27-37	15-40	30-60	25-32	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.32	.32			
	37-60	15-60	15-55	15-30	1.20-1.60	0.6-6	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
<b>7284A:</b>														
Tice-----	0-14	1-15	50-72	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	14-80	1-15	50-75	24-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.0-1.0	.32	.32			
<b>7302A:</b>														
Ambraw-----	0-20	20-45	20-53	27-35	1.30-1.55	0.6-2	0.15-0.22	3.0-5.9	2.0-3.0	.24	.24	5	6	48
	20-36	20-40	18-55	25-42	1.30-1.55	0.2-0.6	0.08-0.19	3.0-5.9	0.5-2.0	.28	.28			
	36-45	20-60	10-56	24-35	1.40-1.65	0.2-2	0.10-0.15	3.0-5.9	0.5-1.0	.28	.28			
	45-60	20-60	10-62	18-30	1.35-1.65	0.2-2	0.11-0.22	0.0-2.9	0.5-1.0	.28	.28			
<b>7451A:</b>														
Lawson-----	0-14	0-15	15-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.32	.32	5	5	56
	14-33	0-15	15-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	3.0-7.0	.32	.32			
	33-80	0-40	40-97	18-30	1.55-1.65	0.6-2	0.18-0.20	3.0-5.9	1.0-4.0	.49	.49			
<b>7674A:</b>														
Dozaville-----	0-14	5-15	60-75	18-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	14-54	5-15	60-75	18-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.49	.49			
	54-61	15-70	20-60	10-25	1.20-1.50	0.6-2	0.17-0.22	0.0-2.9	0.5-1.5	.49	.49			
	61-80	70-95	3-20	2-10	1.35-1.55	6-20	0.02-0.12	0.0-2.9	0.1-0.5	.24	.24			

Table 20.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
8D2:					
Hickory-----	0-6	14-19	---	4.5-7.3	0
	6-51	14-18	---	4.5-7.3	0
	51-60	9.0-19	---	5.1-8.4	0-25
8D3:					
Hickory-----	0-5	17-23	---	4.5-7.3	0
	5-30	12-18	---	4.5-7.3	0
	30-40	12-18	---	4.5-7.3	0
	40-60	5.0-15	---	5.6-8.4	0-25
8F:					
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-12	9.0-14	---	4.5-7.3	0
	12-53	12-19	---	4.5-7.3	0
	53-58	9.0-19	---	5.1-7.8	0-15
	58-63	5.0-15	---	5.6-8.4	0-25
8F3:					
Hickory-----	0-6	17-23	---	4.5-7.3	0
	6-42	16-22	---	4.5-7.3	0
	42-60	9.0-19	---	5.1-7.8	0-25
8G:					
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-12	9.0-14	---	4.5-7.3	0
	12-40	12-19	---	4.5-7.3	0
	40-58	9.0-19	---	5.1-7.8	0-15
	58-63	5.0-15	---	5.6-8.4	0-25
51A:					
Muscataune-----	0-16	16-32	---	6.1-7.3	0
	16-22	16-27	---	5.6-7.3	0
	22-46	17-31	---	5.6-7.3	0
	46-60	9.0-22	---	6.6-7.8	0-15
51B:					
Muscataune-----	0-14	16-32	---	5.1-7.3	0
	14-42	16-27	---	5.1-7.3	0
	42-60	10-31	---	6.6-7.8	0-15
61A:					
Atterberry-----	0-9	11-28	---	6.1-7.3	0
	9-17	9.0-24	---	5.6-6.5	0
	17-48	---	12-29	5.1-6.0	0
	48-60	9.0-23	---	5.6-7.3	0-8
61B:					
Atterberry-----	0-9	11-28	---	6.1-7.3	0
	9-13	9.0-24	---	5.6-6.5	0
	13-48	16-29	---	5.1-6.0	0
	48-60	9.0-23	---	5.6-7.3	0-8
68A:					
Sable-----	0-17	26-33	---	5.6-7.3	0
	17-23	20-30	---	5.6-7.3	0
	23-60	15-23	---	5.6-7.8	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
81A:					
Littleton-----	0-9	11-28	---	5.6-7.8	0
	9-32	11-29	---	5.6-7.8	0
	32-60	11-23	---	5.6-7.8	0
86A:					
Oscosco-----	0-13	18-25	---	5.1-7.3	0
	13-38	15-23	---	5.1-6.5	0
	38-60	12-18	---	5.6-7.3	0-15
86B:					
Oscosco-----	0-14	18-25	---	5.1-7.3	0
	14-55	15-23	---	5.1-6.5	0
	55-60	12-18	---	5.6-7.3	0-15
86B2:					
Oscosco-----	0-8	18-25	---	5.1-7.3	0
	8-42	15-23	---	5.1-6.5	0
	42-51	12-18	---	5.1-6.5	0
	51-60	12-18	---	5.6-7.8	0-15
86C2:					
Oscosco-----	0-9	18-25	---	5.1-7.3	0
	9-34	15-23	---	5.1-6.5	0
	34-60	12-18	---	5.1-7.3	0-15
86D2:					
Oscosco-----	0-8	18-25	---	5.1-7.3	0
	8-51	15-23	---	5.1-6.5	0
	51-60	12-18	---	5.6-7.3	0-15
87A:					
Dickinson-----	0-8	15-20	---	5.6-7.3	0
	8-20	7.0-17	---	5.6-7.3	0
	20-31	9.0-17	---	5.1-6.5	0
	31-36	0.0-10	---	5.1-6.5	0
	36-60	0.0-10	---	5.6-6.5	0
87B:					
Dickinson-----	0-9	10-20	---	5.6-7.3	0
	9-17	7.0-17	---	5.6-7.3	0
	17-33	9.0-17	---	5.1-6.5	0
	33-41	0.0-10	---	5.1-6.5	0
	41-60	0.0-10	---	5.6-6.5	0
88A:					
Sparta-----	0-17	2.0-12	---	5.1-7.3	0
	17-31	1.0-6.0	---	5.1-7.3	0
	31-72	1.0-9.0	---	5.1-6.0	0
88B:					
Sparta-----	0-14	2.0-12	---	5.1-7.3	0
	14-47	1.0-6.0	---	5.1-7.3	0
	47-72	1.0-9.0	---	5.1-6.0	0
119E2:					
Elco-----	0-2	14-22	---	5.6-7.3	0
	2-9	14-22	---	5.6-7.3	0
	9-32	14-22	---	5.1-7.8	0
	32-60	15-27	---	5.1-7.8	0



Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
125A:					
Selma-----	0-23	20-28	---	6.1-7.8	0
	23-53	11-22	---	6.1-8.4	0-20
	53-60	7.0-20	---	6.6-8.4	0-20
134B:					
Camden-----	0-9	10-20	---	5.1-7.3	0
	9-15	10-20	---	5.1-7.3	0
	15-34	13-22	---	5.1-7.3	0
	34-40	10-19	---	5.1-7.3	0
	40-60	3.0-12	---	5.1-8.4	0-5
148A:					
Proctor-----	0-11	17-24	---	5.1-7.8	0
	11-28	16-25	---	5.6-7.3	0
	28-33	11-21	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-10
148B:					
Proctor-----	0-11	17-24	---	5.1-7.8	0
	11-28	16-25	---	5.6-7.3	0
	28-33	11-21	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-10
206A:					
Thorp-----	0-14	20-28	---	5.1-7.8	0
	14-19	11-17	---	5.1-7.3	0
	19-43	13-22	---	5.1-7.3	0
	43-50	12-19	---	5.6-7.8	0-5
	50-65	3.0-13	---	6.1-8.4	0-20
249A:					
Edinburg-----	0-16	22-29	---	5.6-7.8	0
	16-55	21-28	---	5.6-7.3	0
	55-60	13-18	---	6.6-7.8	0-5
259C2:					
Assumption-----	0-8	18-24	---	5.6-7.3	0
	8-24	15-23	---	5.1-7.3	0
	24-60	15-22	---	5.1-7.3	0
261A:					
Niota-----	0-9	14-22	---	5.1-7.3	0
	9-16	11-16	---	5.1-6.0	0
	16-27	21-35	21-35	3.6-6.0	0
	27-36	15-25	15-25	4.5-6.0	0
	36-49	7.0-15	---	5.6-7.3	0
	49-60	6.0-13	---	5.6-8.4	0-20
262A:					
Denrock-----	0-13	17-26	---	5.6-7.8	0
	13-36	23-40	---	5.1-6.0	0
	36-40	15-25	---	5.1-6.5	0
	40-60	3.0-10	---	6.1-7.3	0
268A:					
Mt. Carroll-----	0-7	10-18	---	5.6-7.3	0
	7-10	10-16	---	5.6-7.3	0
	10-55	10-18	---	5.1-7.3	0
	55-60	10-15	---	5.6-8.4	0-30

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
268B:					
Mt. Carroll-----	0-7	10-18	---	5.6-7.3	0
	7-10	10-16	---	5.6-7.3	0
	10-55	10-18	---	5.1-7.3	0
	55-60	10-15	---	5.6-8.4	0-30
271C2:					
Timula-----	0-7	8.0-15	---	6.1-7.8	0-5
	7-22	8.0-15	---	6.1-7.8	0-5
	22-60	6.0-12	---	7.4-8.4	5-35
271D2:					
Timula-----	0-7	8.0-15	---	6.1-7.8	0-5
	7-22	8.0-15	---	6.1-7.8	0-5
	22-60	6.0-12	---	7.4-8.4	5-35
272A:					
Edgington-----	0-20	18-34	---	5.1-6.5	0
	20-31	9.0-24	---	5.1-6.0	0
	31-55	17-31	---	5.1-6.0	0
	55-60	9.0-22	---	6.1-7.8	0-15
274A:					
Seaton-----	0-9	8.0-19	---	5.6-7.3	0
	9-60	11-16	---	4.5-7.3	0
	60-80	6.0-15	---	5.6-8.4	0-35
274B:					
Seaton-----	0-9	8.0-19	---	5.6-7.3	0
	9-60	11-16	---	4.5-7.3	0
	60-80	6.0-15	---	5.6-8.4	0-35
274C2:					
Seaton-----	0-7	10-17	---	5.6-7.3	0
	7-47	11-16	---	4.5-7.3	0
	47-60	6.0-15	---	5.6-8.4	0-35
274C3:					
Seaton-----	0-8	10-17	---	5.6-7.3	0
	8-52	11-16	---	4.5-7.3	0
	52-60	6.0-15	---	5.6-8.4	0-35
274D2:					
Seaton-----	0-8	10-17	---	5.6-7.3	0
	8-52	11-16	---	4.5-7.3	0
	52-60	6.0-15	---	5.6-8.4	0-35
274D3:					
Seaton-----	0-7	10-17	---	5.6-7.3	0
	7-52	11-16	---	4.5-7.3	0
	52-60	6.0-15	---	5.6-8.4	0-35
275A:					
Joy-----	0-15	13-23	---	5.6-7.3	0
	15-51	11-28	---	5.1-7.3	0
	51-60	7.0-14	---	6.1-8.4	0-30

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
277B:					
Port Byron-----	0-13	15-24	---	5.1-7.3	0-10
	13-52	11-17	---	5.6-7.3	0
	52-60	9.0-17	---	5.6-8.4	0-30
	60-77	7.0-11	---	6.1-8.4	0-30
	77-89	3.0-7.0	---	6.1-8.4	0-30
277C2:					
Port Byron-----	0-9	15-24	---	5.1-8.4	0-10
	9-48	11-17	---	5.6-7.3	0
	48-60	9.0-17	---	5.6-8.4	0-30
278A:					
Stronghurst-----	0-8	14-22	---	5.1-7.3	0
	8-47	17-23	---	5.1-7.3	0
	47-60	12-17	---	5.6-7.8	0-15
278B:					
Stronghurst-----	0-10	14-22	---	5.1-7.3	0
	10-48	17-23	---	5.1-7.3	0
	48-60	12-17	---	5.6-7.8	0-15
279A:					
Rozetta-----	0-4	10-22	---	5.1-7.3	0
	4-11	7.0-17	---	4.5-7.3	0
	11-50	16-22	16-22	4.5-6.0	0
	50-60	12-17	---	5.6-7.8	0-15
279B:					
Rozetta-----	0-7	10-22	---	5.1-7.3	0
	7-11	7.0-17	---	4.5-7.3	0
	11-55	16-22	---	4.5-6.0	0
	55-60	12-17	---	5.6-7.8	0-15
279C2:					
Rozetta-----	0-8	10-22	---	5.1-7.3	0
	8-56	16-22	---	4.5-6.0	0
	56-80	12-17	---	5.6-7.8	0-15
279C3:					
Rozetta-----	0-6	7.0-17	---	5.1-7.3	0
	6-33	16-22	---	4.5-6.0	0
	33-60	12-17	---	5.6-7.8	0-15
279D2:					
Rozetta-----	0-6	10-22	---	5.1-7.3	0
	6-49	16-22	16-22	4.5-6.0	0
	49-60	12-17	---	5.6-7.8	0-15
280B:					
Fayette-----	0-9	15-20	---	5.1-7.3	0
	9-39	15-23	---	4.5-6.0	0
	39-60	15-20	---	5.1-7.8	0-15
280C2:					
Fayette-----	0-8	18-25	---	5.1-7.3	0
	8-64	15-22	---	4.5-6.0	0
	64-80	15-20	---	5.1-7.8	0-15

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
280D2:					
Fayette-----	0-6	18-25	---	5.1-7.3	0
	6-48	15-22	---	4.5-6.0	0
	48-60	15-20	---	5.1-7.8	0-15
280D3:					
Fayette-----	0-8	25-30	---	5.1-7.3	0
	8-36	15-22	---	4.5-6.0	0
	36-60	15-20	---	5.1-7.8	0-15
430A:					
Raddle-----	0-21	12-18	---	5.6-7.3	0
	21-80	12-18	---	5.6-7.3	0
430B:					
Raddle-----	0-13	12-18	---	5.6-7.3	0
	13-60	12-18	---	5.6-7.3	0
505G:					
Dunbarton-----	0-2	10-22	---	5.6-7.3	0
	2-10	7.0-17	---	5.6-7.8	0
	10-16	28-36	---	6.6-7.8	0
	16-60	---	---	---	---
671A:					
Biggsville-----	0-13	19-29	---	5.1-8.4	0
	13-53	14-22	---	5.6-7.3	0
	53-80	11-20	---	5.6-8.4	0-35
671B:					
Biggsville-----	0-13	19-29	---	5.1-8.4	0
	13-53	14-22	---	5.6-7.3	0
	53-80	11-20	---	5.6-8.4	0-35
671C2:					
Biggsville-----	0-9	19-29	---	5.1-8.4	0
	9-60	14-22	---	5.6-7.3	0
672A:					
Crescent-----	0-15	8.0-22	---	5.6-7.3	0
	15-46	8.0-20	---	5.1-6.5	0
	46-60	1.0-6.0	---	6.1-7.8	0
672B:					
Crescent-----	0-7	8.0-22	---	5.6-7.3	0
	7-11	4.0-15	---	5.1-7.3	0
	11-41	8.0-20	---	5.1-6.5	0
	41-60	1.0-6.0	---	6.1-7.8	0
675A:					
Greenbush-----	0-9	20-25	---	5.1-7.3	0
	9-16	20-25	---	5.1-7.3	0
	16-46	20-25	---	5.1-7.3	0
	46-60	20-25	---	5.6-7.3	0
675B:					
Greenbush-----	0-14	20-25	---	5.1-7.3	0
	14-60	25-30	---	4.5-7.3	0
	60-80	20-25	---	5.6-7.3	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange	cation-		
	In	capacity	exchange	pH	ate
		meq/100 g	capacity		Pct
			meq/100 g		
675C2:					
Greenbush-----	0-6	20-25	---	5.1-7.3	0
	6-46	25-30	---	4.5-7.3	0
	46-60	20-25	---	5.6-7.3	0
678A:					
Mannon-----	0-7	10-18	---	5.6-7.3	0
	7-12	10-16	---	5.6-7.3	0
	12-59	10-18	---	5.1-7.3	0
	59-80	10-15	---	5.6-8.4	0-30
678B:					
Mannon-----	0-7	10-18	---	5.6-7.3	0
	7-10	10-16	---	5.6-7.3	0
	10-59	10-18	---	5.1-7.3	0
	59-80	10-15	---	5.6-8.4	0-30
689A:					
Coloma-----	0-10	1.0-12	---	4.5-7.3	0
	10-27	0.1-9.0	---	4.5-7.3	0
	27-60	0.4-11	---	4.5-7.3	0
689B:					
Coloma-----	0-10	1.0-12	---	4.5-7.3	0
	10-27	0.1-9.0	---	4.5-7.3	0
	27-60	0.4-11	---	4.5-7.3	0
689D:					
Coloma-----	0-12	1.0-12	---	4.5-7.3	0
	12-25	0.1-9.0	---	4.5-7.3	0
	25-60	0.4-11	---	4.5-7.3	0
724D2:					
Rozetta-----	0-6	10-22	---	5.1-7.3	0
	6-49	---	16-22	4.5-6.0	0
	49-60	12-17	---	5.6-7.8	0-15
Elco-----	0-6	14-22	---	5.6-7.3	0
	6-28	14-22	---	5.1-7.8	0
	28-60	15-27	---	5.1-7.8	0
802B:					
Orthents, loamy-----	0-6	10-25	---	5.6-7.8	0-10
	6-60	10-20	---	5.6-7.8	0-20
864.					
Pits, quarries					
936D2:					
Fayette-----	0-4	18-25	---	5.1-7.3	0
	4-8	15-20	---	5.1-7.3	0
	8-60	15-20	---	4.5-6.0	0-15
Hickory-----	0-8	14-19	---	4.5-7.3	0
	8-12	14-19	---	4.5-7.3	0
	12-51	16-22	---	4.5-7.3	0
	51-60	9.0-19	---	5.1-8.4	0-15

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
<b>936D3:</b>					
Fayette-----	0-8	25-30	---	5.1-7.3	0
	8-36	15-22	---	4.5-6.0	0
	36-60	15-20	---	5.1-7.8	0-15
Hickory-----	0-5	17-23	---	4.5-7.3	0
	5-30	12-18	---	4.5-7.3	0
	30-40	12-18	---	4.5-7.3	0
	40-60	5.0-15	---	5.6-8.4	0-25
<b>936F:</b>					
Fayette-----	0-4	15-20	---	5.1-7.3	0
	4-10	15-20	---	5.1-7.3	0
	10-60	15-20	---	4.5-6.0	0-15
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-10	14-19	---	4.5-7.3	0
	10-50	16-22	---	4.5-7.3	0
	50-60	9.0-19	---	5.1-8.4	0-15
<b>936G:</b>					
Fayette-----	0-4	15-20	---	5.1-7.3	0
	4-10	15-20	---	5.1-7.3	0
	10-60	15-20	---	4.5-6.0	0-15
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-10	14-19	---	4.5-7.3	0
	10-50	16-22	---	4.5-7.3	0
	50-60	9.0-19	---	5.1-8.4	0-15
<b>937D2:</b>					
Seaton-----	0-8	10-17	---	5.6-7.3	0
	8-52	11-16	---	4.5-7.3	0
	52-60	6.0-15	---	5.6-8.4	0-35
Hickory-----	0-6	14-19	---	4.5-7.3	0
	6-51	16-22	---	4.5-7.3	0
	51-60	9.0-19	---	5.1-8.4	0-25
<b>937D3:</b>					
Seaton-----	0-8	10-17	---	5.6-7.3	0
	8-52	11-16	---	4.5-7.3	0
	52-60	6.0-15	---	5.6-8.4	0-35
Hickory-----	0-5	17-23	---	4.5-7.3	0
	5-30	12-18	---	4.5-7.3	0
	30-40	12-18	---	4.5-7.3	0
	40-60	5.0-15	---	5.6-8.4	0-25
<b>937F:</b>					
Seaton-----	0-7	8.0-19	---	5.6-7.3	0
	7-47	11-16	---	4.5-7.3	0
	47-60	6.0-15	---	5.6-8.4	0-35
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-12	9.0-14	---	4.5-7.3	0
	12-53	12-19	---	4.5-7.3	0
	53-58	9.0-19	---	5.1-7.8	0-15
	58-63	5.0-15	---	5.6-8.4	0-25

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
937G:					
Seaton-----	0-6	8.0-19	---	5.6-7.3	0
	6-44	11-16	---	4.5-7.3	0
	44-60	6.0-15	---	5.6-8.4	0-25
Hickory-----	0-4	14-19	---	4.5-7.3	0
	4-12	9.0-14	---	4.5-7.3	0
	12-40	12-19	---	4.5-7.3	0
	40-58	9.0-19	---	5.1-7.8	0-15
	58-63	5.0-15	---	5.6-8.4	0-25
943D3:					
Seaton-----	0-4	10-17	---	5.6-7.3	0
	4-39	11-16	---	4.5-7.3	0
	39-60	6.0-15	---	5.6-8.4	0-25
Timula-----	0-23	8.0-15	---	6.1-7.8	0-5
	23-60	6.0-12	---	7.4-8.4	5-35
943F2:					
Seaton-----	0-6	10-17	---	5.6-7.3	0
	6-49	11-16	---	4.5-7.3	0
	49-60	6.0-15	---	5.6-8.4	0-35
Timula-----	0-6	8.0-15	---	6.1-7.8	0-5
	6-28	8.0-15	---	6.1-7.8	0-5
	28-60	6.0-12	---	7.4-8.4	5-35
943G:					
Seaton-----	0-9	8.0-19	---	5.6-7.3	0
	9-60	11-16	---	4.5-7.3	0
Timula-----	0-28	8.0-15	---	6.1-7.8	0-5
	28-60	6.0-12	---	7.4-8.4	5-35
957D2:					
Elco-----	0-4	14-22	---	5.6-7.3	0
	4-7	14-22	---	5.6-7.3	0
	7-25	14-22	---	5.1-7.3	0
	25-60	15-27	---	5.1-7.8	0
Atlas-----	0-3	14-22	---	4.5-7.3	0
	3-5	14-22	---	4.5-7.3	0
	5-28	21-29	---	4.5-7.3	0
	28-60	18-29	---	4.5-7.8	0-25
957D3:					
Elco-----	0-7	16-22	---	5.6-7.3	0
	7-27	14-22	---	5.1-7.8	0
	27-39	14-21	---	5.1-7.8	0
	39-60	15-27	---	5.1-7.8	0-10
Atlas-----	0-5	19-28	---	4.5-7.3	0
	5-9	21-29	---	4.5-7.3	0
	9-39	18-29	---	4.5-7.8	0-25
	39-60	18-29	---	4.5-7.8	0-25
1083A:					
Wabash-----	0-15	30-35	---	5.1-7.3	0
	15-60	28-42	---	5.1-7.8	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
1107A:					
Sawmill-----	0-29	24-31	---	6.1-7.8	0
	29-38	17-27	---	6.1-7.8	0
	38-60	16-25	---	6.1-7.8	0-10
3074A:					
Radford-----	0-12	15-24	---	5.6-7.8	0
	12-33	11-20	---	6.1-7.8	0
	33-60	14-23	---	6.1-7.8	0-20
3107+:					
Sawmill-----	0-11	19-26	---	6.1-7.8	0
	11-36	17-27	---	6.1-7.8	0
	36-53	16-25	---	6.1-7.8	0-10
	53-60	11-22	---	6.1-8.4	0-30
3107A:					
Sawmill-----	0-26	24-31	---	6.1-7.8	0
	26-54	18-29	---	6.1-7.8	0
	54-72	11-23	---	6.1-8.4	0-30
3284A:					
Tice-----	0-14	20-27	---	6.1-7.8	0
	14-39	16-23	---	5.6-7.8	0
	39-72	9.0-20	---	5.6-7.8	0-20
3302A:					
Ambraw-----	0-8	20-27	---	5.6-7.3	0
	8-39	19-29	---	5.1-7.3	0
	39-50	15-23	---	5.1-7.3	0
	50-60	11-19	---	5.6-8.4	0
3333A:					
Wakeland-----	0-8	4.0-12	---	5.6-7.3	0
	8-68	4.0-12	---	5.6-7.8	0
	68-80	4.0-12	---	5.6-7.8	0
3334A:					
Birds-----	0-9	8.0-12	---	5.6-7.3	0
	9-37	8.0-14	---	5.6-7.8	0
	37-60	6.0-12	---	5.6-7.3	0
3415A:					
Orion-----	0-7	7.0-20	---	5.6-7.8	0
	7-22	7.0-20	---	5.6-7.8	0
	22-60	10-35	---	5.6-7.8	0
	60-80	5.0-15	---	5.6-7.8	0
3451A:					
Lawson-----	0-14	11-28	---	6.1-7.8	0
	14-33	11-29	---	6.1-7.8	0
	33-80	11-23	---	6.1-7.8	0
3646L:					
Fluvaquents-----	0-9	8.0-12	---	5.6-7.3	0
	9-37	8.0-14	---	5.6-7.8	0
	37-60	6.0-12	---	5.6-7.3	0



Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
3725A:					
Otter-----	0-43	16-36	---	6.1-7.8	0
	43-50	12-22	---	6.1-7.8	0
	50-60	10-21	---	6.1-8.4	0
Lawson-----	0-14	11-28	---	6.1-7.8	0
	14-33	11-29	---	6.1-7.8	0
	33-80	11-23	---	6.1-7.8	0
7070A:					
Beaucoup-----	0-16	26-33	---	5.6-7.8	0
	16-43	16-25	---	5.6-7.8	0
	43-50	9.0-20	---	6.1-7.8	0-5
	50-60	6.0-20	---	6.1-8.4	0-25
7083A:					
Wabash-----	0-15	30-35	---	5.1-7.3	0
	15-60	28-42	---	5.1-7.8	0
7107A:					
Sawmill-----	0-10	24-31	---	6.1-7.8	0
	10-35	17-27	---	6.1-7.8	0
	35-60	12-23	---	6.1-7.8	0-10
7183A:					
Shaffton-----	0-19	20-35	---	6.1-7.8	0
	19-27	13-28	---	6.1-7.8	0
	27-37	21-34	---	6.1-8.4	0-5
	37-60	2.0-18	---	6.1-8.4	0-20
7284A:					
Tice-----	0-14	20-27	---	6.1-7.8	0
	14-80	16-23	---	5.1-7.3	0
7302A:					
Ambraw-----	0-20	15-27	---	5.6-7.3	0
	20-36	19-29	---	5.1-7.3	0
	36-45	15-23	---	5.1-7.3	0
	45-60	11-19	---	5.6-8.4	0
7451A:					
Lawson-----	0-14	11-28	---	6.1-7.8	0
	14-33	11-29	---	6.1-7.8	0
	33-80	11-23	---	6.1-7.8	0
7674A:					
Dozaville-----	0-14	15-22	---	5.6-7.3	0
	14-54	12-18	---	5.6-7.3	0
	54-61	10-18	---	5.6-7.8	0
	61-80	2.0-10	---	5.6-7.8	0-5

Table 21.--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	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
8D2: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8D3: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8F: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8F3: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8G: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
51A: Muscatune-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
51B: Muscatune-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
61A: Atterberry-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
61B: Atterberry-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
68A: Sable-----	B/D	0.0-0.5	Brief	Occasional	---	None	Jan-May	0.0-1.0	>6.0	Apparent
81A: Littleton-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
86A: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
86B: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
86B2: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
86C2: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
86D2: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
87A: Dickinson-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
87B: Dickinson-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
88A: Sparta-----	A	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
88B: Sparta-----	A	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
119E2: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
125A: Selma-----	B/D	0.0-0.5	Brief	Occasional	---	None	Jan-May	0.0-1.0	>6.0	Apparent
134B: Camden-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
148A: Proctor-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
148B: Proctor-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
206A: Thorp-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
249A: Edinburg-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
259C2: Assumption-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
261A: Niota-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
262A: Denrock-----	D	---	---	---	---	None	Jan-May	1.0-2.0	1.5-3.0	Perched
268A: Mt. Carroll-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
268B: Mt. Carroll-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
271C2: Timula-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
271D2: Timula-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
272A: Edgington-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
274A: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
274B: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
274C2: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
274C3: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
274D2: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
274D3: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
275A: Joy-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
277B: Port Byron-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
277C2: Port Byron-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
278A: Stronghurst-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
278B: Stronghurst-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
279A: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279B: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279C2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279C3: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279D2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
280B: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280C2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280D2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280D3: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
430A: Raddle-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
430B: Raddle-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
505G: Dunbarton-----	D	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
671A: Biggsville-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
671B: Biggsville-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
671C2: Biggsville-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
672A: Crescent-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
672B: Crescent-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
675A: Greenbush-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
675B: Greenbush-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
675C2: Greenbush-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
678A: Mannon-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
678B: Mannon-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
689A: Coloma-----	A	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
689B: Coloma-----	A	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
689D: Coloma-----	A	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
724D2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
802B: Orthents, loamy---	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
864. Pits, quarries										
936D2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
936D3: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
936F: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
936G: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
937D2: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
937D3: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
937F: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	C	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
937G: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
943D3: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Timula-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
943F2: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Timula-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
943G: Seaton-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Timula-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
957D2: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
Atlas-----	D	---	---	---	---	None	Jan-May	0.5-2.0	2.0-4.0	Perched
957D3: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
Atlas-----	D	---	---	---	---	None	Jan-May	0.5-2.0	2.0-4.0	Perched
1083A: Wabash-----	D	0.0-0.5	Long	Frequent	Brief	Frequent	Jan-Jun	0.0-1.0	>6.0	Apparent
1107A: Sawmill-----	B/D	0.0-0.5	Long	Frequent	Brief	Frequent	Jan-Jun	0.0-1.0	>6.0	Apparent
3074A: Radford-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3107+: Sawmill-----	B/D	---	---	---	Brief	Frequent	Jan-May	0.0-2.0	>6.0	Apparent

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
3107A: Sawmill-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3284A: Tice-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3302A: Ambraw-----	B/D	0.0-0.5	Very brief	Occasional	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3333A: Wakeland-----	B	---	---	---	Brief	Frequent	Jan-May	0.5-2.0	>6.0	Apparent
3334A: Birds-----	B/D	---	---	---	Brief	Frequent	Nov-Jun	0.0-1.0	>6.0	Apparent
3415A: Orion-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3451A: Lawson-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3646L: Fluvaquents-----	B	0.0-0.5	Long	Frequent	Long	Frequent	Jan-Dec	0.0-1.0	>6.0	Apparent
3725A: Otter-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
Lawson-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
7070A: Beaucoup-----	B/D	0.0-0.5	Brief	Occasional	Very brief	Rare	Jan-May	0.0-1.0	>6.0	Apparent
7083A: Wabash-----	D	0.0-0.5	Brief	Occasional	Brief	Rare	Jan-May	0.0-1.0	>6.0	Apparent
7107A: Sawmill-----	B/D	0.0-0.5	Brief	Occasional	Very brief	Rare	Jan-May	0.0-2.0	>6.0	Apparent
7183A: Shaffton-----	B	---	---	---	Very brief	Rare	Feb-Apr	1.5-3.0	>6.0	Apparent
7284A: Tice-----	B	---	---	---	Brief	Rare	Jan-May	1.0-2.0	>6.0	Apparent
7302A: Ambraw-----	B/D	0.0-0.5	Brief	Occasional	Very brief	Rare	Jan-May	0.0-1.0	>6.0	Apparent
7451A: Lawson-----	B	---	---	---	Very brief	Rare	Jan-May	1.0-2.0	>6.0	Apparent
7674A: Dozaville-----	B	---	---	None	Brief	Rare	Jan-Dec	>6.0	>6.0	---

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		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In		Uncoated steel	Concrete
8D2: Hickory-----	---	---	Moderate	Moderate	Moderate
8D3: Hickory-----	---	---	Moderate	Moderate	Moderate
8F: Hickory-----	---	---	Moderate	Moderate	Moderate
8F3: Hickory-----	---	---	Moderate	Moderate	Moderate
8G: Hickory-----	---	---	Moderate	Moderate	Moderate
51A: Muscatune-----	---	---	High	High	Moderate
51B: Muscatune-----	---	---	High	High	Low
61A: Atterberry-----	---	---	High	High	Moderate
61B: Atterberry-----	---	---	High	High	Moderate
68A: Sable-----	---	---	High	High	Low
81A: Littleton-----	---	---	High	High	Low
86A: Osco-----	---	---	High	Moderate	Moderate
86B: Osco-----	---	---	High	Moderate	Moderate
86B2: Osco-----	---	---	High	Moderate	Moderate
86C2: Osco-----	---	---	High	Moderate	Moderate
86D2: Osco-----	---	---	High	Moderate	Moderate
87A: Dickinson-----	---	---	Moderate	Low	Moderate
87B: Dickinson-----	---	---	Moderate	Low	Moderate
88A: Sparta-----	---	---	Low	Low	Moderate



Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
88B: Sparta-----	---	---	Low	Low	Moderate
119E2: Elco-----	---	---	High	High	Low
125A: Selma-----	---	---	High	High	Low
134B: Camden-----	---	---	High	Moderate	Low
148A: Proctor-----	---	---	High	Moderate	Moderate
148B: Proctor-----	---	---	High	Moderate	Moderate
206A: Thorp-----	---	---	High	High	Moderate
249A: Edinburg-----	---	---	High	High	Moderate
259C2: Assumption-----	---	---	High	High	Moderate
261A: Niota-----	---	---	High	High	High
262A: Denrock-----	---	---	High	High	Moderate
268A: Mt. Carroll-----	---	---	High	Low	Moderate
268B: Mt. Carroll-----	---	---	High	Low	Moderate
271C2: Timula-----	---	---	High	Low	Low
271D2: Timula-----	---	---	High	Low	Low
272A: Edgington-----	---	---	High	High	Moderate
274A: Seaton-----	---	---	High	Low	Moderate
274B: Seaton-----	---	---	High	Low	Moderate
274C2: Seaton-----	---	---	High	Low	Moderate
274C3: Seaton-----	---	---	High	Low	Moderate
274D2: Seaton-----	---	---	High	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
274D3: Seaton-----	---	---	High	Low	Moderate
275A: Joy-----	---	---	High	High	Low
277B: Port Byron-----	---	---	High	Low	Low
277C2: Port Byron-----	---	---	High	Low	Low
278A: Stronghurst-----	---	---	High	High	Low
278B: Stronghurst-----	---	---	High	High	Low
279A: Rozetta-----	---	---	High	Moderate	Moderate
279B: Rozetta-----	---	---	High	Moderate	High
279C2: Rozetta-----	---	---	High	Moderate	Moderate
279C3: Rozetta-----	---	---	High	Moderate	High
279D2: Rozetta-----	---	---	High	Moderate	Moderate
280B: Fayette-----	---	---	High	Moderate	Moderate
280C2: Fayette-----	---	---	High	Moderate	High
280D2: Fayette-----	---	---	High	Moderate	Moderate
280D3: Fayette-----	---	---	High	Moderate	Moderate
430A: Raddle-----	---	---	High	Moderate	Moderate
430B: Raddle-----	---	---	High	Moderate	Moderate
505G: Dunbarton-----	Bedrock (lithic)	12-20	Moderate	Moderate	Low
671A: Biggsville-----	---	---	High	Low	Moderate
671B: Biggsville-----	---	---	High	Low	Moderate
671C2: Biggsville-----	---	---	High	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
672A: Crescent-----	---	---	Moderate	Moderate	Moderate
672B: Crescent-----	---	---	Moderate	Moderate	Moderate
675A: Greenbush-----	---	---	High	Moderate	Low
675B: Greenbush-----	---	---	High	Moderate	High
675C2: Greenbush-----	---	---	High	Moderate	Low
678A: Mannon-----	---	---	High	Moderate	Moderate
678B: Mannon-----	---	---	High	Moderate	Moderate
689A: Coloma-----	---	---	Low	Low	Moderate
689B: Coloma-----	---	---	Low	Low	Moderate
689D: Coloma-----	---	---	Low	Low	Moderate
724D2: Rozetta-----	---	---	High	Moderate	Moderate
Elco-----	---	---	High	High	Low
802B: Orthents, loamy-----	---	---	Moderate	Moderate	Low
864. Pits, quarries					
936D2: Fayette-----	---	---	High	Moderate	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
936D3: Fayette-----	---	---	High	Moderate	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
936F: Fayette-----	---	---	High	Moderate	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
936G: Fayette-----	---	---	High	Moderate	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
937D2: Seaton-----	---	---	High	Low	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
937D3: Seaton-----	---	---	High	Low	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
937F: Seaton-----	---	---	High	Low	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
937G: Seaton-----	---	---	High	Low	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
943D3: Seaton-----	---	---	High	Low	Moderate
Timula-----	---	---	High	Low	Low
943F2: Seaton-----	---	---	High	Low	Moderate
Timula-----	---	---	High	Low	Low
943G: Seaton-----	---	---	High	Low	Moderate
Timula-----	---	---	High	Low	Low
957D2: Elco-----	---	---	High	High	Low
Atlas-----	---	---	High	High	Moderate
957D3: Elco-----	---	---	High	High	Low
Atlas-----	---	---	High	High	Moderate
1083A: Wabash-----	---	---	High	High	Moderate
1107A: Sawmill-----	---	---	High	High	Low
3074A: Radford-----	---	---	High	High	Moderate
3107+: Sawmill-----	---	---	High	High	Low
3107A: Sawmill-----	---	---	High	High	Low
3284A: Tice-----	---	---	High	High	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
3302A: Ambraw-----	---	---	High	High	Moderate
3333A: Wakeland-----	---	---	High	High	Low
3334A: Birds-----	---	---	High	Moderate	Low
3415A: Orion-----	---	---	High	High	Low
3451A: Lawson-----	---	---	High	High	Low
3646L: Fluvaquents-----	---	---	High	Moderate	Low
3725A: Otter-----	---	---	High	High	Low
Lawson-----	---	---	High	High	Low
7070A: Beaucoup-----	---	---	High	High	Low
7083A: Wabash-----	---	---	High	High	Moderate
7107A: Sawmill-----	---	---	High	High	Low
7183A: Shaffton-----	---	---	High	High	Low
7284A: Tice-----	---	---	High	High	Low
7302A: Ambraw-----	---	---	High	High	Moderate
7451A: Lawson-----	---	---	High	Moderate	Low
7674A: Dozaville-----	---	---	High	Moderate	Moderate

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