United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Tennessee Agricultural Experiment Station, Moore County Board of Commissioners, Tennessee Department of Agriculture, and Moore County Soil Conservation District

Soil Survey of Moore County, Tennessee

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

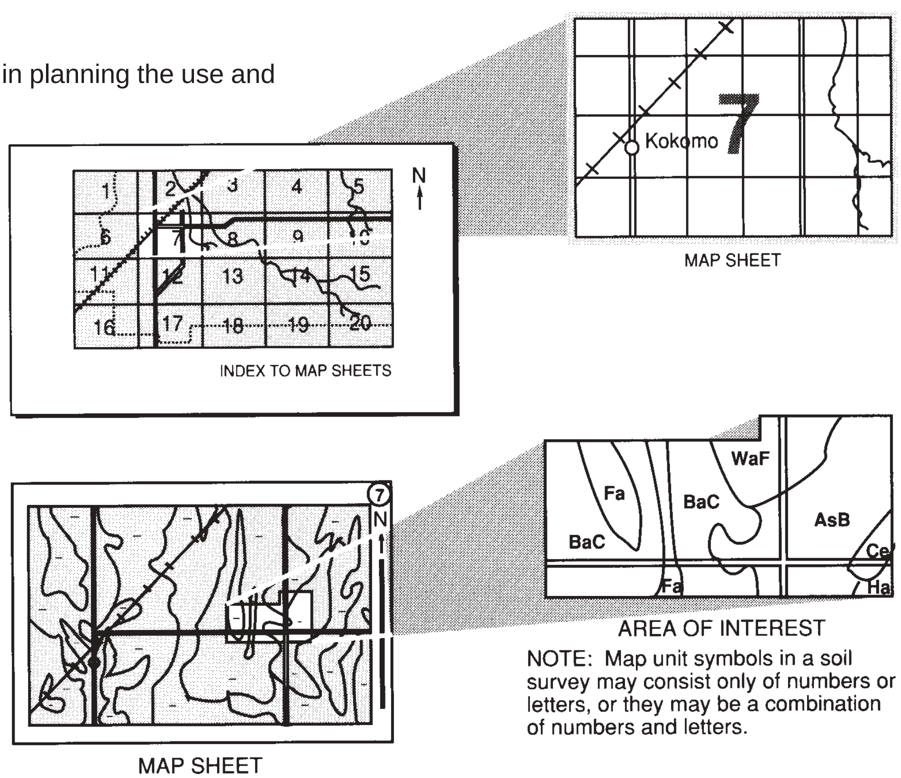
Detailed Soil Maps

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

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

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

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



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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.

Major fieldwork for this soil survey was completed in 2001. Soil names and descriptions were approved in 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. This survey was made cooperatively by the Natural Resources Conservation Service, the Tennessee Agricultural Experiment Station, the Moore County Board of Commissioners, and the Tennessee Department of Agriculture. The survey is part of the technical assistance furnished to the Moore County Soil Conservation District.

Cover: Lynchburg, the county seat, sits among the rolling hills of the outer part of the Central Basin.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov.

Contents

Issued 2004

Foreword

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

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

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

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. 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. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

James W. Ford
State Conservationist
Natural Resources Conservation Service

Soil Survey of Moore County, Tennessee

By Debra K. Brasfield, Natural Resources Conservation Service

Fieldwork by Charles L. Davis and Debra K. Brasfield, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Tennessee Agricultural Experiment Station, Moore County Board of Commissioners,
Tennessee Department of Agriculture, and Moore County Soil Conservation District

MOORE COUNTY is in the south-central part of Tennessee (fig. 1). It is bounded on the north by Bedford and Coffee Counties, on the east and south by Franklin County, and on the west and south by Lincoln County. Moore County has a land area of 83,700 acres, or approximately 160 square miles. Lynchburg, the county seat, is near the center of the county and has a population of 360. In 1999, according to the 2000 Census, Moore County had a population of 5,140.

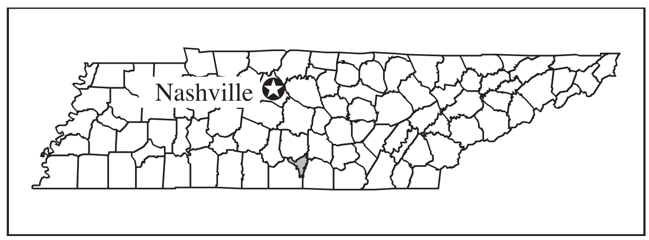


Figure 1.—Location of Moore County in Tennessee.

General Nature of the Survey Area

This section gives general information about Moore County. It describes history and development, natural resources, physiography and drainage, geology, and climate.

History and Development

Moore County was established in 1871 from portions of Lincoln, Franklin, Coffee, and Bedford Counties. It was named in honor of General William Moore, who was one of the early settlers of Lincoln County, a veteran of the War of 1812, and a member of the General Assembly for several terms.

The survey area was first settled about 1800 by pioneers from North Carolina and Georgia who were attracted by the abundance of wild game. In 1818, Thomas Roundtree laid out the town of Lynchburg. At this time, the area was known for being a haven for thieves. The punishment for stealing was the whipping post. The beech tree used as the whipping post was located near the home of Thomas Roundtree, and he named the town Lynchburg. The town was incorporated by an act of the General Assembly of the State during its sessions in 1841-42. The charter was amended in 1872 by the Chancery Court of Moore County in conformity with an act of 1870-71.

Lynchburg is perhaps best known for being the home of the Jack Daniels Distillery. Jack Daniels was born in 1850, and at the age of 9 he began making whiskey. The Jack Daniels Distillery grew from his venture. In 1866, it became the first registered distillery in America. The distillery, in addition to the city and State governments, accounts for much of the county's employment. Tourism is also a big source of income for the county *(3)*.

Natural Resources

Soil and water are the two most important natural resources in the county. The production of crops, hay, livestock, and timber are dependent on these resources. Gravel, which is used in the transportation and construction industries, is also important to the economy of the county. Most of the county has an adequate supply of water for domestic and livestock uses. The major sources of water are streams, wells, ponds, and lakes. Farm ponds are an important source of water for livestock, wildlife, and recreation.

Physiography and Drainage

The physiography of Moore County includes the Central Basin and the Eastern Highland Rim. The elevation in the county ranges from about 700 feet above sea level in the Central Basin to 1,120 feet on the Highland Rim.

The Central Basin is a nearly elliptical area enclosed by the Highland Rim. It makes up approximately two thirds of Moore County. It is characterized by numerous narrow valleys separated by moderately steep or steep hillsides and narrow ridges. These ridges are remnants of the Highland Rim. Elevations on the ridges range from 900 to 1,120 feet above sea level. These remnants of the Highland Rim are capped with cherty limestone. Nearly all of this area is underlain by limestone, and outcrops of this bedrock are common. On the long, steep hillsides and footslopes, the soils range from deep and loamy to shallow and clayey with common rock outcrops. Drainage is south into the Elk River. The Elk River flows westward through the southern and southeastern parts of the county and onward to the Tennessee River. Mulberry, Norris, and Little Cane Creeks are important tributaries that flow into the Elk River from the north.

West of the Cumberland Plateau and surrounding the Central Basin is the Highland Rim. The eastern component of the Highland Rim occupies approximately one third of Moore County, in the northeastern part of the survey area. Elevations average about 1,000 feet, and the highest is 1,120 feet. This area gently slopes to the east. The terrain is nearly level to rolling. Broad upland flats separate slight rises and lie along meandering drainageways. The soils are well drained or moderately well drained on the slight rises and poorly drained on the low flats and in depressional areas. They formed in 2 to 3 feet of loess over clayey residuum of limestone. Some soils have a fragipan and slow or very slow permeability. Drainage is not well developed in these sections of the Highland Rim.

Geology

The rocks in Moore County are composed of sediments deposited during the Paleozoic Era. They represent rocks from the oldest to the youngest of the Ordovician, Silurian, Devonian, and Mississippian Periods.

During the deposition of the sediments that make up the rocks of the survey area, the area was alternately covered by shallow seas and then exposed to erosion during periods of uplift. In the Ordovician Period, volcanic activity in the area of present-day North Carolina and Virginia left ash deposits in the shallow seas. These deposits have been chemically altered over time to form silicate clays known as bentonites. The bentonite beds are used as markers of geologic time. One of the most prominent bentonite beds is the T^3 bed, which is also known as the “Pencil Cave” in driller terminology. It is located in the Carters Limestone of Ordovician age. The shale present in the stratagraphic column represents periods of uplift in the area where mud was washed into the shallow seas from erosion on the uplifted land mass. The Ordovician rocks exposed in Moore County, ranging from the oldest to the youngest, are the Lebanon Limestone, the Carters Limestone, the Hermitage Formation, the Bigby-Canon Limestone, the Catheys Formation, the Inman Formation, the Leipers Formation, and the Sequatchie Formation.

Sediments deposited during the Silurian Period are similar to the carbonates that were deposited in the shallow seas of the Ordovician Period. Most of the Silurian Period rocks eroded away during the Devonian Period. The Brassfield Limestone is the only rock representing the Silurian Period currently present in Moore County and is limited to thin exposures in the southern portion of the county.

The Devonian Period was a time of major uplift and erosion in the area of present-day Tennessee. Most of the sediments deposited during the Silurian and Devonian Periods eroded away during the uplifts. When the shallow sea returned, conditions were vastly different than before. Black carbonaceous mud was deposited over hundreds of thousands of square miles. The mud, containing rotted organic matter, became the Chattanooga Shale. The Chattanooga Shale is one of the most easily recognized geologic beds in Tennessee. It contains as much as 15 gallons of oil per ton of shale and is approximately 0.006 percent uranium. However, neither the shale nor the uranium is economically feasible to extract at the present time. The Chattanooga Shale is the only remaining rock of the Devonian Period exposed in Moore County.

The Mississippian Period sediments are the youngest rocks exposed in the county. Shallow seas teaming with life occurred again over much of the area of present-day Tennessee. Strong, shifting currents and varying sediment sources created deposits of chert, limestone, sandstone, and shale. The Mississippian sediments once extended over the entire Central Basin of Tennessee but were stripped away by erosion. The rocks of the Mississippian Period are represented in the survey area as highly weathered residuum of the bedrock that contains an abundant amount of chert cobbles and gravel. The Mississippian-age rocks, ranging from the oldest to the youngest, are the Maury Shale, the Fort Payne Formation, and the Warsaw Limestone *(4)*.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Fayetteville, Tennessee, in the period 1961 to 1990. 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 38.2 degrees F and the average daily minimum temperature is 27.0 degrees. The lowest temperature on record, which occurred on January 30, 1966, is -26 degrees. In summer, the average temperature is 75.4 degrees and the average daily maximum temperature is 87.9 degrees. The highest recorded temperature, which occurred on July 17, 1980, is 103 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.

The total annual precipitation is 53.82 inches. Of this, 28.27 inches, or about 53 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 6.62 inches on March 16, 1973. Thunderstorms occur on about 55 days each year, and most occur between March and August.

The average seasonal snowfall is 5.5 inches. The greatest snow depth at any one time during the period of record was 11 inches. On the average, 4 days of the year have at least 1 inch of snow on the ground. The heaviest 1 day snowfall on record was 11.0 inches, recorded on January 1, 1964.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 65 percent of the time possible in summer and 45 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in March.

How This Survey Was Made

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

The soils and miscellaneous areas in the 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, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the 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 high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

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

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

1. Hawthorne-Dellrose-Mimosa

Moderately deep to very deep, gently sloping to steep, well drained to excessively drained soils that formed in residuum from limestone and colluvium (fig. 2)

Setting

Landscape: Narrow, rolling ridgetops and steep hillsides and footslopes
Slope range: 5 to 60 percent

Extent and Composition

Percent of the survey area: 50
Hawthorne soils—43 percent
Dellrose soils—31 percent
Mimosa soils—17 percent
Minor inclusions (including Bodine, Sugargrove, Ellisville, and Ennis soils and Rock outcrop)—9 percent

Soil Properties and Qualities

Hawthorne

Drainage class: Somewhat excessively drained
Position on landscape: Ridgetops and steep hillsides
Parent material: Residuum of siltstone and cherty limestone
Surface texture: Gravelly silt loam
Slope: 5 to 60 percent

Dellrose

Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Colluvium and limestone residuum
Surface texture: Gravelly silt loam
Slope: 12 to 40 percent

Mimosa

Drainage class: Well drained
Position on landscape: Footslopes
Parent material: Clayey residuum of limestone
Surface texture: Silt loam
Slope: 5 to 40 percent

Use and Management

Cropland

Suitability: Unsuited
Management concerns: Slope, severe hazard of erosion, and areas of rock outcrops

Pasture and hay

Suitability: Hawthorne—unsuited; Dellrose and Mimosa—suited
Management concerns: Slope and hazard of erosion

Woodland

Suitability: Suited
Management concerns: Slope, hazard of erosion, and depth to bedrock

Residential and commercial uses

Suitability: Unsuited

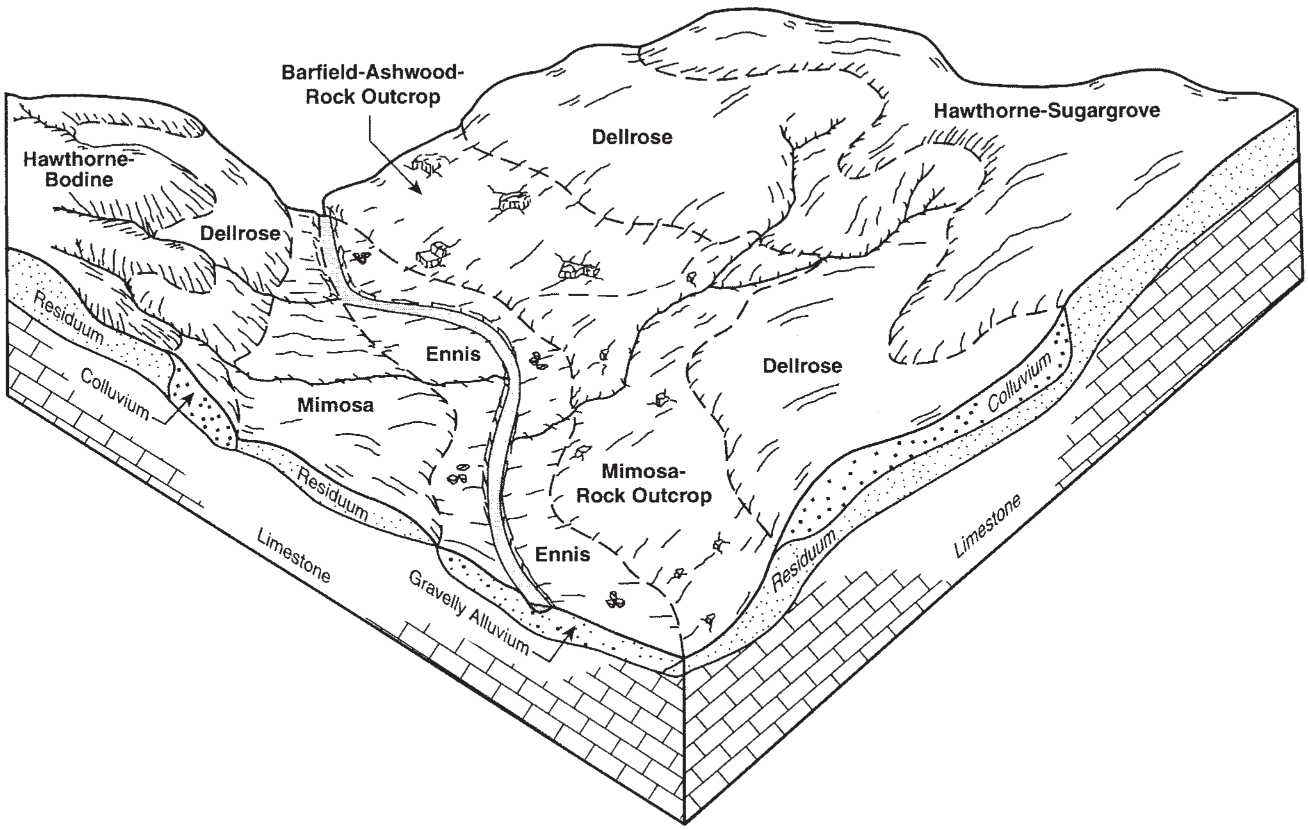


Figure 2.—Typical pattern of soils and parent material in the Hawthorne-Dellrose-Mimosa general soil map unit.

Management concerns: Slope, depth to bedrock, slow permeability, slippage, and seepage

2. Mountview-Dickson-Taft

Very deep, undulating and rolling, well drained to somewhat poorly drained soils that formed in loess and residuum from limestone and that commonly have a fragipan (fig.3)

Setting

Landscape: Undulating and rolling uplands and depressions
Slope range: 0 to 12 percent

Extent and Composition

Percent of the survey area: 20
Mountview soils—35 percent
Dickson soils—35 percent
Taft soils—20 percent
Minor soils (including Guthrie, Hawthorne, and Sugargrove)—10 percent

Soil Properties and Qualities

Mountview

Drainage class: Well drained and moderately well drained
Position on landscape: Ridges and side slopes
Parent material: Loess and residuum from limestone
Surface texture: Silt loam
Slope: 0 to 12 percent

Dickson

Drainage class: Moderately well drained
Position on landscape: Undulating ridges
Parent material: Loess and residuum from limestone
Surface texture: Silt loam
Slope: 0 to 5 percent

Taft

Drainage class: Somewhat poorly drained
Position on landscape: Upland flats and depressions
Parent material: Loess and residuum from limestone
Surface texture: Silt loam
Slope: 0 to 2 percent

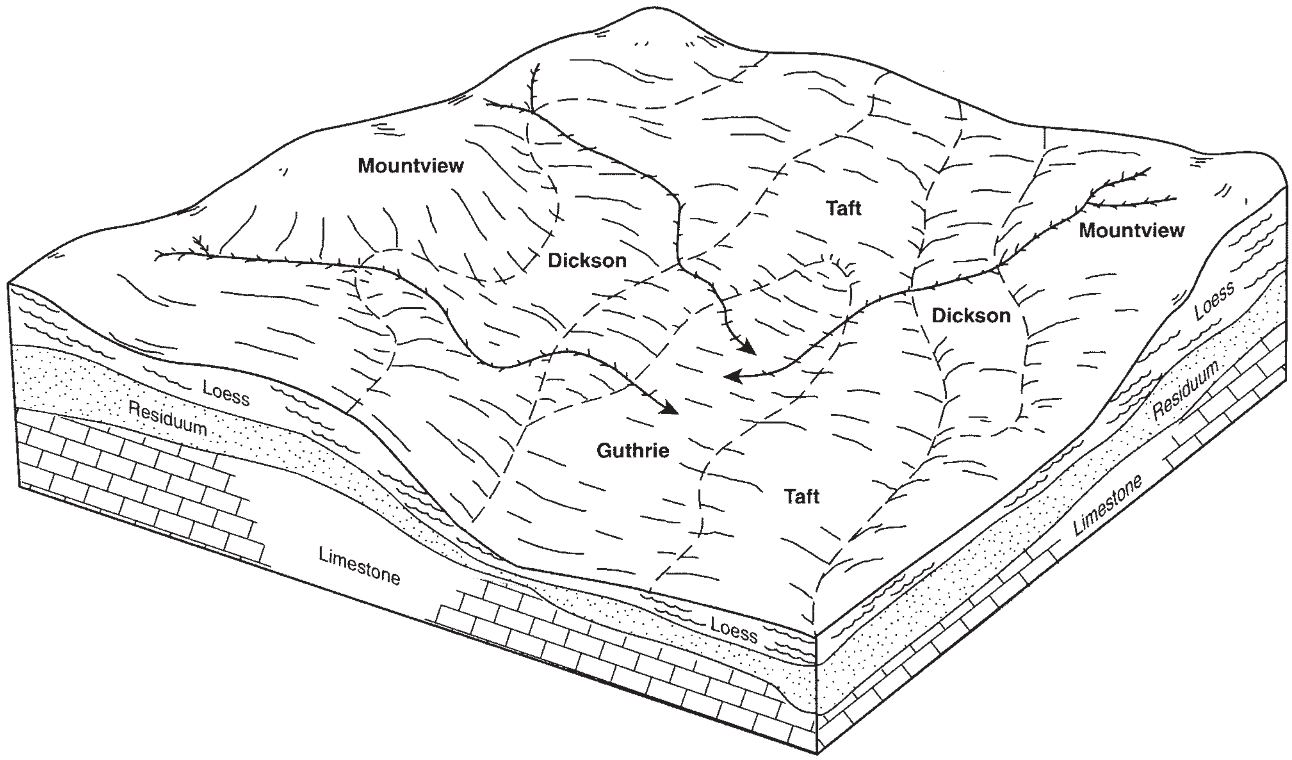


Figure 3.—Typical pattern of soils and parent material in the Mountview-Dickson-Taft general soil map unit.

Use and Management

Cropland

Suitability: Mountview and Dickson—well suited; Taft—poorly suited
Management concerns: Wetness, hazard of erosion, and rooting depth

Pasture and hay

Suitability: Well suited
Management concerns: Wetness and hazard of erosion

Woodland

Suitability: Well suited
Management concerns: Wetness and rooting depth

Residential and commercial uses

Suitability: Mountview and Dickson—suited; Taft—poorly suited
Management concerns: A perched water table, seasonal wetness, and ponding

3. Mimosa-Barfield-Rock outcrop

Deep to shallow, rolling to steep, well drained soils that formed in residuum from limestone and areas of rock outcrop (fig. 4)

Setting

Landscape: Rolling to steep hillsides and footslopes
Slope range: 5 to 40 percent

Extent and Composition

Percent of the survey area: 20
Mimosa soils—39 percent
Barfield soils—20 percent
Rock outcrop—20 percent
Minor soils (including Hawthorne, Bodine, Egam, Tupelo, Humphreys, Lindell, and Agee)—21 percent

Soil Properties and Qualities

Mimosa

Drainage class: Well drained
Position on landscape: Hillsides and footslopes

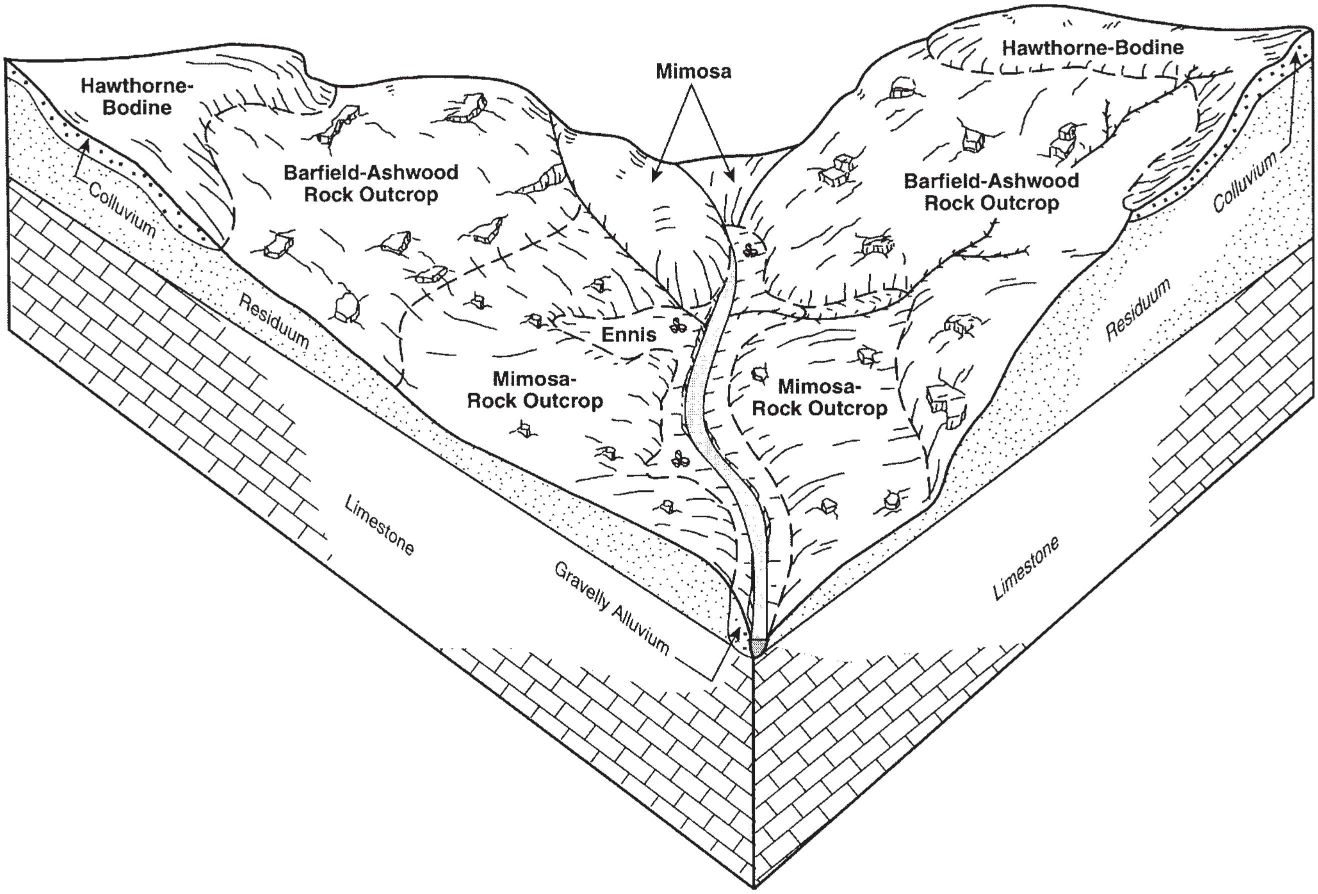


Figure 4.—Typical pattern of soils and parent material in the Mimosa-Barfield-Rock outcrop general soil map unit.

Parent material: Clayey residuum from limestone
Surface texture: Silt loam
Slope: 5 to 40 percent

Barfield

Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Residuum from limestone
Surface texture: Silty clay loam
Slope: 5 to 40 percent

Rock outcrop

Rock outcrop consists of shelves of limestone bedrock that extend from a few inches to 3 or 4 feet above the surface of the soil.

Use and Management

Cropland

Suitability: Unsuited
Management concerns: Areas of rock outcrop, slope, depth to bedrock, and hazard of erosion

Pasture and hay

Suitability: Mimosa—suited; Barfield and Rock outcrop—unsuited
Management concerns: Slope, areas of rock outcrop, depth to bedrock, and hazard of erosion

Woodland

Suitability: Suited
Management concerns: Slope, areas of rock outcrop, depth to bedrock, and hazard of erosion

Residential and commercial uses

Suitability: Unsuited
Management concerns: Slope, depth to bedrock, slow or very slow permeability, and areas of rock outcrop

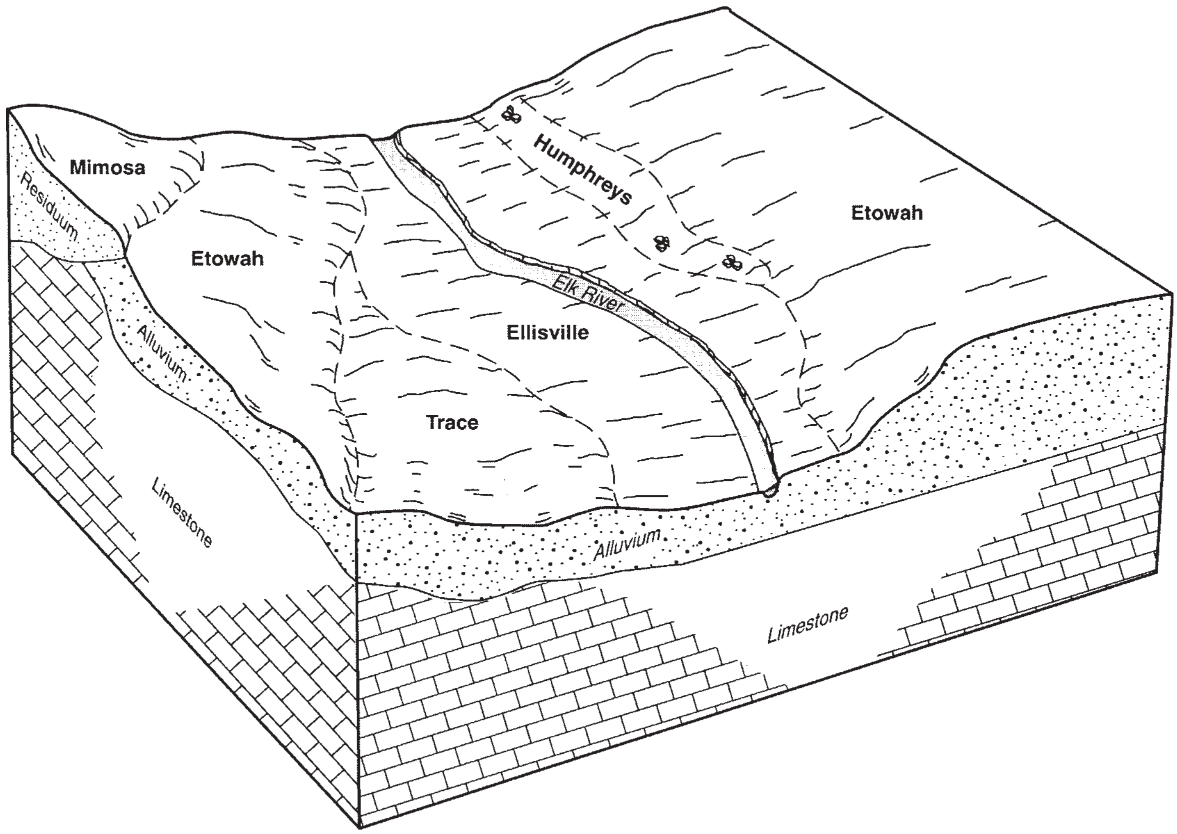


Figure 5.—Typical pattern of soils and parent material in the Etowah-Trace-Ellisville general soil map unit.

4. Etowah-Trace-Ellisville

Very deep, nearly level to moderately steep, well drained soils that formed in alluvium (fig. 5)

Setting

Landscape: Nearly level flood plains and undulating to moderately steep stream terraces
Slope range: 0 to 20 percent

Extent and Composition

Percent of the survey area: 5
Etowah soils—31 percent
Trace soils—30 percent
Ellisville soils—29 percent
Minor soils (including Mimosa, Humphreys, Armour, Nesbitt, and Lindell)—10 percent

Soil Properties and Qualities

Etowah

Drainage class: Well drained
Position on landscape: Stream terraces
Parent material: Alluvium
Surface texture: Silt loam
Slope: 2 to 20 percent

Trace

Drainage class: Well drained
Position on landscape: Stream terraces
Parent material: Silty alluvium underlain by gravelly alluvium
Surface texture: Silt loam
Slope: 0 to 5 percent

Ellisville

Drainage class: Well drained
Position on landscape: Flood plains
Parent material: Alluvium
Surface texture: Silt loam
Slope: 0 to 2 percent

Use and Management

Cropland

Suitability: Well suited

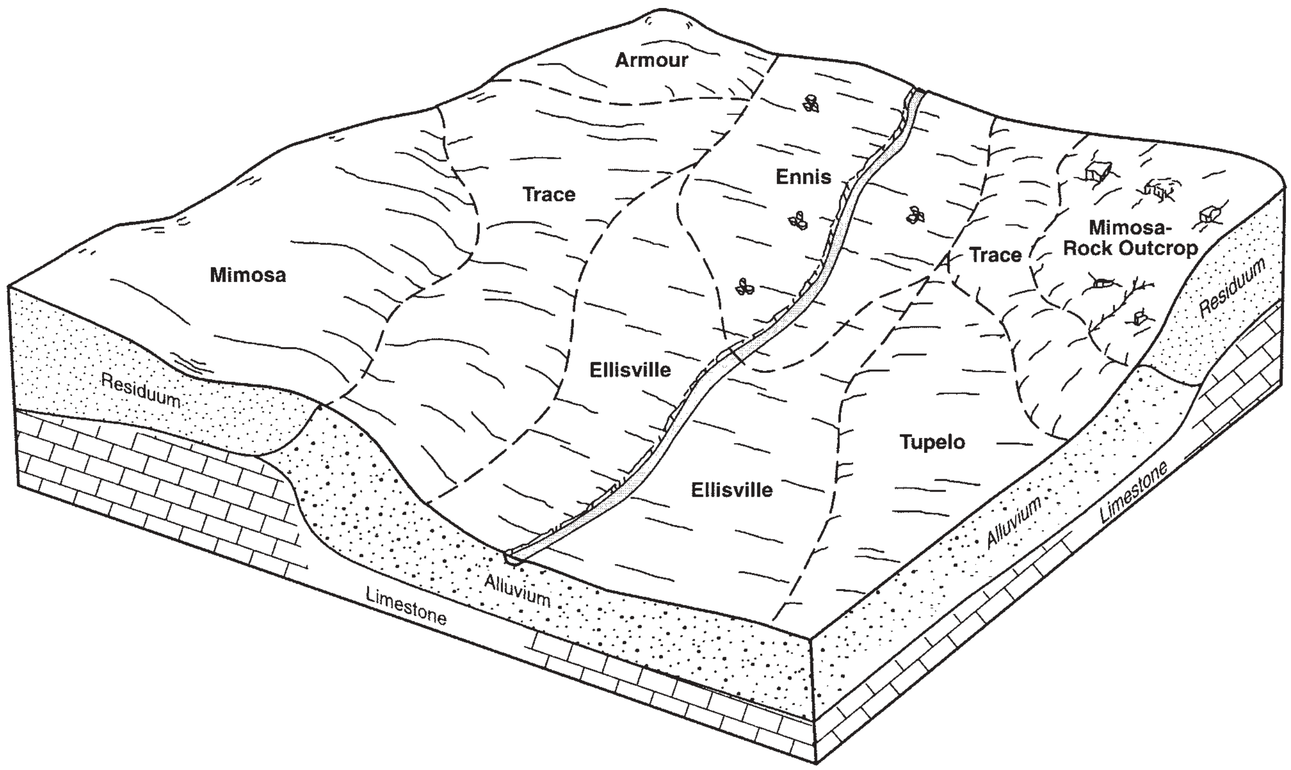


Figure 6.—Typical pattern of soils and parent material in the Mimosa-Ennis-Ellisville general soil map unit.

Management concerns: Hazard of erosion and flooding

Pasture and hay

Suitability: Well suited

Woodland

Suitability: Well suited

Residential and commercial uses

Suitability: Etowah and Trace—well suited; Ellisville—unsuited
Management concerns: Slope and flooding

5. Mimosa-Ennis-Ellisville

Deep and very deep, steep to nearly level, well drained soils that formed in clayey residuum from limestone and alluvium (fig. 6)

Setting

Landscape: Nearly level flood plains and moderately steep and steep hillsides
Slope range: 0 to 40 percent

Extent and Composition

Percent of the survey area: 5
Mimosa soils—40 percent
Ennis soils—25 percent
Ellisville soils—25 percent
Minor inclusions (including Armour, Humphreys, Trace, Tupelo, Lindell, Nesbitt, and Egam soils and Rock outcrop)—10 percent

Soil Properties and Qualities

Mimosa

Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Residuum from clayey limestone
Surface texture: Silt loam
Slope: 5 to 40 percent

Ennis

Drainage class: Well drained
Position on landscape: Flood plains
Parent material: Gravelly alluvium
Surface texture: Gravelly silt loam
Slope: 0 to 2 percent

Ellisville

Drainage class: Well drained
Position on landscape: Flood plains
Parent material: Alluvium
Surface texture: Silt loam
Slope: 0 to 2 percent

Use and Management

Cropland

Suitability: Suited
Management concerns: Hazard of erosion and flooding

Pasture and hay

Suitability: Well suited

Woodland

Suitability: Suited
Management concerns: Hazard of erosion and flooding

Residential and commercial uses

Suitability: Mimosa—poorly suited; Ennis and Ellisville—unsuited
Management concerns: Slope, slow permeability, and flooding

Detailed Soil Map Units

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the 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, Mountview silt loam, 2 to 5 percent slopes, is a phase of the Mountview series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are 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. Hawthorne-Sugargrove complex, 5 to 20 percent slopes, is an example.

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

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

Ag—Agee silty clay loam, rarely flooded

Setting

Landscape position: Flood plains and stream terraces throughout the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 25 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 10 inches—very dark gray silty clay loam

Subsoil:
10 to 14 inches—dark gray silty clay
14 to 26 inches—dark gray clay
26 to 42 inches—gray clay
42 to 65 inches—gray, light olive gray, olive, and light olive brown clay

Inclusions

• Egam and Tupelo soils on similar landscapes

Important Soil Properties and Features

Drainage class: Poorly drained
Permeability: Very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to slightly alkaline
High water table: At a depth of 0 to 1 foot in winter and early spring
Depth to bedrock: More than 60 inches
Flood hazard: Rare

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The seasonal high water table is a limitation affecting crop production.
• Planting and harvesting may be delayed in some years.
• Deep-rooted crops that are sensitive to wetness are not recommended.
Capability subclass: 4w

Pasture and hay

Suitability: Suited
General management considerations:
• Plant selection and good management are important in maintaining productivity.
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.

Woodland

Suitability: Suited
Trees suitable for planting: Sweetgum, American sycamore, water oak, and cherrybark oak
General management considerations:
• The main limitations affecting timber management are suitability for log landings, a soil rutting hazard, suitability for roads, suitability for hand planting, suitability for mechanical planting, and suitability for mechanical site preparation.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

AmB—Armour silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces throughout the county
Shape of areas: Irregular
Size of areas: 5 to 60 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 7 inches—dark yellowish brown silt loam

Subsoil:
7 to 17 inches—brown silt loam
17 to 26 inches—strong brown silty clay loam
26 to 47 inches—brown silty clay loam
47 to 65 inches—brown silty clay loam

Inclusions

• Mimosa, Nesbitt, and Trace soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High

Soil reaction: Slightly acid to strongly acid
High water table: None
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting crop production.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting forage production.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, black walnut, southern red oak, and white oak
General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Well suited
General management considerations:
• Low strength is a limitation affecting local roads and streets.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

Ar—Arrington silt loam, frequently flooded

Setting

Landscape position: Flood plains in the southwestern part of the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 20 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 10 inches—dark brown silt loam

Subsoil:
10 to 34 inches—very dark grayish brown silt loam
34 to 51 inches—very dark grayish brown silt loam that has brownish mottles
51 to 60 inches—yellowish brown, dark grayish brown, and strong brown silty clay loam

Inclusions

• Ellisville and Lindell soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to slightly alkaline
High water table: None
Depth to bedrock: More than 60 inches
Flood hazard: Frequent for brief periods in winter and spring

Use and Management

Cropland

Suitability: Suited
General management considerations:
• The frequent flooding is a limitation affecting cropland.
Capability subclass: 3w

Pasture and hay

Suitability: Suited
General management considerations:
• Plants, such as tall fescue and white clover, can tolerate brief periods of flooding.

Woodland

Suitability: Suited
Trees suitable for planting: Yellow-poplar, black walnut, sweetgum, white oak, and cherrybark oak
General management considerations:
• The main limitations affecting timber management are construction of haul roads and log landings, suitability of log landings, a soil rutting hazard, and suitability of roads.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

BaC—Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes

Setting

Landscape position: Ridgetops and hillsides throughout the county
Shape of areas: Irregular
Size of areas: 5 to 375 acres
Major uses: Woodland

Composition

Barfield soil—37 percent
Ashwood soil—31 percent
Rock outcrop—25 percent
Inclusions—7 percent

Typical Profile

Barfield

Surface layer:
0 to 3 inches—very dark grayish brown silty clay loam

Subsoil:
3 to 7 inches—dark brown silty clay
7 to 12 inches—olive brown clay that has brownish mottles
12 inches—hard limestone bedrock

Ashwood

Surface layer:
0 to 2 inches—very dark grayish brown silty clay loam

Subsoil:
2 to 12 inches—dark brown silty clay loam
12 to 17 inches—yellowish brown clay that has brownish mottles
17 to 35 inches—yellowish brown clay
35 inches—hard limestone bedrock

Rock outcrop

Rock outcrop consists of individual boulders or stones and shelves of limestone bedrock that extend from a few inches to 3 or 4 feet above the surface of the soil.

Inclusions

- Mimosa soils on similar landscapes
- Small areas that are more than 50 percent rock outcrop

Important Properties and Features of the Barfield and Ashwood Soils

Drainage class: Barfield—well drained to excessively drained; Ashwood—well drained
Permeability: Very slow or slow
Available water capacity: Barfield—very low; Ashwood—low
Soil reaction: Slightly acid to slightly alkaline
High water table: None
Depth to bedrock: Barfield—8 to 20 inches; Ashwood—20 to 40 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
- Areas of rock outcrop and the low or very low available water capacity severely limit crop production.

Capability subclass: 6s

Pasture and hay

Suitability: Unsuited
General management considerations:
- Areas of rock outcrop and the low or very low available water capacity severely limit the production of pasture and hay.

Woodland

Suitability: Poorly suited
Trees suitable for planting: Virginia pine and eastern redcedar
General management considerations:
- The main limitations affecting timber production are construction of haul roads and log landings, suitability for log landings, a soil rutting hazard, a hazard of erosion on roads and trails, and suitability for mechanical site preparation.

Urban development

Suitability: Unsuited
General management considerations:
- Other sites in the survey area should be considered for urban development.

BaE—Barfield-Ashwood-Rock outcrop complex, 20 to 40 percent slopes

Setting

Landscape position: Hillsides throughout the county
Shape of areas: Irregular
Size of areas: 5 to 250 acres
Major uses: Woodland

Composition

Barfield soil—37 percent
Ashwood soil—31 percent

Rock outcrop—25 percent
Inclusions—7 percent

Typical Profile

Barfield

Surface layer:
0 to 3 inches—very dark grayish brown silty clay loam

Subsoil:
3 to 7 inches—dark brown silty clay
7 to 12 inches—olive brown clay that has brownish mottles
12 inches—hard limestone bedrock

Ashwood

Surface layer:
0 to 2 inches—very dark grayish brown silty clay loam

Subsoil:
2 to 12 inches—dark brown silty clay loam
12 to 17 inches—yellowish brown clay that has brownish mottles
17 to 35 inches—yellowish brown clay
35 inches—hard limestone bedrock

Rock outcrop

Rock outcrop consists of individual boulders or stones and shelves of limestone bedrock that extend from a few inches to 3 or 4 feet above the surface of the soil.

Inclusions

• Mimosa, Hawthorne, and Bodine soils on similar landscapes
• Small areas that are more than 50 percent rock outcrop

Important Properties and Features of the Barfield and Ashwood Soils

Drainage class: Barfield—well drained to excessively drained; Ashwood—well drained
Permeability: Moderately slow
Available water capacity: Barfield—very low; Ashwood—low
Soil reaction: Slightly acid to slightly alkaline
High water table: None
Depth to bedrock: Barfield—8 to 20 inches; Ashwood—20 to 40 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• Areas of rock outcrop, the slope, and the low or very low available water capacity severely limit crop production.
Capability subclass: 7s

Pasture and hay

Suitability: Unsuited
General management considerations:
• Areas of rock outcrop, the slope, and the low or very low available water capacity severely limit the production of pasture and hay.

Woodland

Suitability: Poorly suited
Trees suitable for planting: Virginia pine and eastern redcedar
General management considerations:
• The main limitations affecting timber production are construction of haul roads and log landings, suitability for log landings, a soil rutting hazard, a hazard of erosion on roads and trails, suitability for roads, suitability for mechanical planting, and suitability for mechanical site preparation.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

DeD—Dellrose gravelly silt loam, 12 to 20 percent slopes

Setting

Landscape position: Hillsides and footslopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 120 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 8 inches—dark brown gravelly silt loam

Subsoil:
8 to 14 inches—yellowish brown gravelly silt loam
14 to 32 inches—strong brown gravelly silty clay loam
32 to 80 inches—strong brown gravelly silty clay loam

Inclusions

• Mimosa soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained

Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Slightly acid to very strongly acid
High water table: None
Depth to bedrock: More than 60 inches
Flood hazard: None

Use and Management

Cropland

Suitability: Poorly suited
General management considerations:
• The slope and hazard of erosion are major limitations affecting cropland.
Capability subclass: 4e

Pasture and hay

Suitability: Well suited
General management considerations:
• If the plants are overgrazed or if plant stands are poor, the slope increases the hazard of erosion.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, southern red oak, and black walnut
General management considerations:
• The main limitations affecting timber management are construction of haul roads and log landings, suitability of log landings, a soil rutting hazard, a hazard of erosion on roads and trails, suitability of roads, and suitability of mechanical planting.

Urban development

Suitability: Poorly suited
General management considerations:
• This map unit is poorly suited to residential and commercial uses because of the slope.

DeE—Dellrose gravelly silt loam, 20 to 40 percent slopes

Setting

Landscape position: Hillsides and footslopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 450 acres
Major uses: Woodland

Typical Profile

Surface layer:
0 to 8 inches—dark brown gravelly silt loam

Subsoil:
8 to 14 inches—yellowish brown gravelly silt loam
14 to 32 inches—strong brown gravelly silty clay loam
32 to 80 inches—strong brown gravelly silty clay loam

Inclusions

• Mimosa soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Slightly acid to very strongly acid
High water table: None
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The slope and hazard of erosion are major limitations affecting cropland.
Capability subclass: 6e

Pasture and hay

Suitability: Suited (fig. 7)
General management considerations:
• If the plants are overgrazed or if plant stands are poor, the slope increases the hazard of erosion.
• The slope limits most equipment used in harvesting hay.
• The operation of machinery is very hazardous because of the slope.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, southern red oak, and black walnut
General management considerations:
• The main limitations affecting timber management are construction of haul roads and log landings, suitability of log landings, a soil rutting hazard, a hazard of erosion on roads and trails, suitability of roads, and suitability of mechanical planting.

Figure 7.— Dellrose gravelly silt loam, 20 to 40 percent slopes, is suited to pasture if good conservation measures are used to prevent erosion.

Urban development

Suitability: Poorly suited
General management considerations:
• Other sites in the survey area should be considered for urban development.

DkA—Dickson silt loam, 0 to 2 percent slopes

Setting

Landscape position: Nearly level ridges in the eastern part of the county
Shape of areas: Irregular
Size of areas: 5 to 120 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Subsurface layer:
6 to 12 inches—light yellowish brown and pale brown silt loam

Subsoil:
12 to 27 inches—light olive brown silt loam
27 to 32 inches—light olive brown and light brownish gray silt loam fragipan

32 to 42 inches—light olive brown, yellowish brown, light brownish gray, and dark yellowish brown silty clay loam fragipan
42 to 65 inches—strong brown silty clay

Inclusions

- Mountview soils on the slightly higher landscapes
- Taft soils in slight depressions

Important Soil Properties and Features

Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and very slow or slow in the fragipan
Available water capacity: High
Soil reaction: Slightly acid to very strongly acid
High water table: Perched above the fragipan at a depth of about 1.5 to 2.3 feet
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Well suited
General management considerations:
- The seasonal wetness in winter and spring can restrict rooting depth and inhibit plant germination.
- Planting crops later in spring improves plant germination and early growth.
- No-till planting, contour cultivation, and stripcropping can help to control erosion and maintain productivity.

Capability subclass: 2w

Pasture and hay

Suitability: Well suited
General management considerations:
- Because of the seasonal wetness, only hay and pasture plants that can tolerant short periods of wetness, such as fescue and white clover, should be selected.
- A perched water table limits grazing for several days at a time during winter and early spring.
- Grazing should be deferred until a period from late spring to early fall.
- The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, southern red oak, cherrybark oak, and white oak
General management considerations:
- The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Poorly suited
General management considerations:
- A seasonal perched water table and restricted permeability in the subsoil are limitations affecting septic tank absorption fields and dwellings.
- Low strength is a limitation affecting local roads and streets.
- A special design may be needed for septic systems.
- If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

DkB—Dickson silt loam, 2 to 5 percent slopes

Setting

Landscape position: Undulating ridges in the eastern part of the county
Shape of areas: Irregular
Size of areas: 5 to 200 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown silt loam

Subsurface layer:
2 to 12 inches—light yellowish brown and pale brown silt loam

Subsoil:
12 to 27 inches—light olive brown silt loam
27 to 32 inches—light olive brown silt loam fragipan
32 to 42 inches—light olive brown, yellowish brown, light brownish gray, and dark yellowish brown silty clay loam fragipan
42 to 65 inches—strong brown silty clay

Inclusions

- Mountview soils in the slightly higher positions and on side slopes
- Taft soils in gentle depressions

Important Soil Properties and Features

Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and very slow or slow in the fragipan
Available water capacity: High
Soil reaction: Slightly acid to very strongly acid

High water table: Perched above the fragipan at a depth of about 1.5 to 2.3 feet
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Suited
General management considerations:
• Most climatically adapted crops grow well if they are managed with erosion-control measures.
• The seasonal wetness in winter and spring can restrict rooting depth and inhibit plant germination.
• Planting cover crops, using a crop rotation system, returning crop residue to the soil, and using conservation tillage practices, such as no-till planting, can minimize erosion and increase soil moisture.
• Planting crops later in spring improves plant germination and early growth.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• Because of the seasonal wetness, only hay and pasture plants that can tolerate short periods of wetness, such as fescue and white clover, should be selected.
• A perched water table limits grazing for several days at a time during winter and early spring.
• Grazing should be deferred until a period from late spring to early fall.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, southern red oak, cherrybark oak, and white oak
General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Poorly suited
General management considerations:
• A seasonal perched water table and restricted permeability in the subsoil are major limitations affecting septic tank absorption fields, dwellings, and roads and streets.

Eg—Egam silt loam, occasionally flooded

Setting

Landscape position: Flood plains throughout the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 25 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 5 inches—very dark grayish brown silt loam

Subsoil:
5 to 24 inches—very dark grayish brown silty clay
24 to 35 inches—olive brown clay
35 to 50 inches—light olive brown silty clay loam
50 to 65 inches—light brownish gray, yellowish brown, and light olive brown silty clay loam

Inclusions

• Agee and Tupelo soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained or moderately well drained
Permeability: Moderately slow
Available water capacity: High
Soil reaction: Slightly acid to moderately acid
High water table: Seasonal at a depth of 3 to 4 feet in winter and spring
Depth to bedrock: More than 60 inches
Flood hazard: Occasional for brief periods in late winter and early spring

Use and Management

Cropland

Suitability: Suited
General management considerations:
• Most locally adapted crops grow well on this soil, and high yields can be obtained.
• Damage from flooding is the major limitation affecting crop production.
Capability subclass: 2w

Pasture and hay

Suitability: Well suited
General management considerations:
• Plant selection and good management are important in maintaining productivity.

Figure 8.—Corn and hay grow well on Ellisville silt loam, occasionally flooded, located on the flood plains of the Elk River and its tributaries.

• Selecting plants, such as tall fescue and white clover, that can tolerate short periods of wetness is recommended.

Woodland

Suitability: Well suited
Trees suitable for planting: Sweetgum, yellow-poplar, swamp white oak, and cherrybark oak
General management considerations:
• The main limitations affecting timber production are construction of haul roads and log landings, suitability of log landings, a soil rutting hazard, and suitability for roads.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

El—Ellisville silt loam, occasionally flooded

Setting

Landscape position: Flood plains throughout the county (fig. 8)
Shape of areas: Irregular

Slope range: 0 to 2 percent
Size of areas: 5 to 50 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 10 inches—brown silt loam

Subsoil:
10 to 24 inches—dark brown silty clay loam
24 to 34 inches—brown silty clay loam
34 to 51 inches—dark yellowish brown silty clay loam
51 to 60 inches—dark yellowish brown silt loam that has brownish mottles

Inclusions

• Arrington and Ennis soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to slightly alkaline
High water table: None
Depth to bedrock: More than 60 inches
Flood hazard: Occasional for brief periods in winter and spring

Use and Management

Cropland

Suitability: Suited
General management considerations:
• Most locally adapted crops grow well on this soil, and high yields can be obtained.
• Damage from flooding is the major limitation affecting crop production.
Capability subclass: 2w

Pasture and hay

Suitability: Suited
General management considerations:
• Selecting plants, such as tall fescue and white clover, that can tolerate brief periods of flooding is recommended.

Woodland

Suitability: Suited
Trees suitable for planting: Yellow-poplar, black walnut, sweetgum, white oak, and cherrybark oak
General management considerations:
• The main limitations affecting timber management are construction of haul roads and log landings, suitability of log landings, a soil rutting hazard, and suitability of roads.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

En—Ennis gravelly silt loam, occasionally flooded

Setting

Landscape position: Flood plains throughout the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 50 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 9 inches—dark brown gravelly silt loam

Subsoil:
9 to 20 inches—yellowish brown gravelly loam
20 to 38 inches—brown gravelly silt loam
38 to 55 inches—yellowish brown gravelly silt loam

Substratum:
55 to 60 inches—yellowish brown gravelly silt loam

Inclusions

• Ellisville and Trace soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate or low
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: More than 60 inches
Flood hazard: Occasional for brief periods in winter and spring

Use and Management

Cropland

Suitability: Poorly suited
General management considerations:
• The content of gravel in the surface layer may hinder tillage equipment.
• Flooding is a limitation affecting the planting and harvesting of crops.

• During dry periods, the soil is droughty and yields may be reduced because of the low available water capacity.
Capability subclass: 2w

Pasture and hay

Suitability: Suited
General management considerations:
• Selecting drought-resistant grasses, proper weed control, and controlled grazing help to keep the pasture and soil in satisfactory condition.

Woodland

Suitability: Suited
Trees suitable for planting: Yellow-poplar, sweetgum, American sycamore, cherrybark oak, and white oak
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Unsuited
General management considerations:
• Flooding is a limitation affecting septic tank absorption fields, dwellings with and without basements, and local roads and streets.
• Other sites in the survey area should be considered for urban development.

EtB—Etowah silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces in the central part of the county and along the Elk River in the southern part of the county
Shape of areas: Irregular
Size of areas: 5 to 50 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 27 inches—strong brown clay loam
27 to 52 inches—yellowish red clay loam
52 to 65 inches—yellowish red clay loam

Inclusions

• Humphreys soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: None

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting crop production.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting forage production.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Cherrybark oak, loblolly pine, southern red oak, and yellow-poplar
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Well suited
General management considerations:
• Low strength is a limitation affecting local roads and streets.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

EtC2—Etowah silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Stream terraces in the central part of the county and along the Elk River in the southern part of the county (fig. 9)
Shape of areas: Irregular

Figure 9.—Terraces and flood plains along the Elk River are used for crops and hay. Soils on the terraces include Etowah silt loam, 5 to 12 percent slopes, eroded.

Size of areas: 5 to 50 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 28 inches—strong brown clay loam
28 to 54 inches—yellowish red clay loam
54 to 65 inches—yellowish red clay loam

Inclusions

• Humphreys and Mimosa soils in the slightly lower landscape positions

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: None

Use and Management

Cropland

Suitability: Suited
General management considerations:
• The hazard of erosion is a limitation affecting crop production.
• No-till planting, contour cultivation, and stripcropping can help to control erosion and maintain productivity.
Capability subclass: 3e

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting forage production.
• The quality and quantity of forage can be maintained

by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Cherrybark oak, loblolly pine, southern red oak, and yellow-poplar
General management considerations:
• The main limitations affecting timber production are a soil rutting hazard and a hazard of erosion on roads and trails.

Urban development

Suitability: Well suited
General management considerations:
• Slow percolation is a limitation affecting septic tank absorption fields.
• Low strength is a limitation affecting local roads and streets.
• A special design may be needed for septic systems.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

EtD2—Etowah silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Stream terraces in the central part of the county and along the Elk River in the central part of the county
Size of areas: 5 to 50 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 4 inches—brown silt loam

Subsoil:
4 to 28 inches—strong brown clay loam
28 to 54 inches—yellowish red clay loam
54 to 65 inches—yellowish red clay loam

Inclusions

• Mimosa soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: None

Use and Management

Cropland

Suitability: Poorly suited
General management considerations:
• This soil should not be used continuously as cropland because of the slope and the high erosion potential.
• Areas of cropland should only be cultivated on the contour using a rotation system in which the land remains in a vegetative cover for several seasons following cultivation.
• Practices such as no-till farming and contour stripcropping help to reduce the hazard of water erosion and minimize runoff.
Capability subclass: 4e

Pasture and hay

Suitability: Suited
General management considerations:
• High-quality forages, such as fescue and white clover, are suitable for planting.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Cherrybark oak, loblolly pine, southern red oak, and yellow-poplar
General management considerations:
• The main limitations affecting timber production are a soil rutting hazard, a hazard of erosion on roads and trails, suitability for roads, suitability for mechanical planting, and suitability for mechanical site preparation.

Urban development

Suitability: Poorly suited
General management considerations:
• The slope is the main limitation affecting septic tank absorption fields, dwellings with and without basements, and local roads and streets.

Gu—Guthrie silt loam, ponded

Setting

Landscape position: Upland flats and depressions in the eastern part of the county
Shape of areas: Irregular
Slope range: 0 to 1 percent
Size of areas: 5 to 200 acres
Major uses: Woodland

Typical Profile

Surface layer:
0 to 3 inches—very dark grayish brown silt loam

Subsoil:
3 to 9 inches—light brownish gray silt loam
9 to 24 inches—light brownish gray silt loam
24 to 65 inches—gray silt loam fragipan

Inclusions

- Taft soils in the slightly higher areas
- A similar soil that does not have a fragipan in the subsoil

Important Soil Properties and Features

Drainage class: Poorly drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Strongly acid to extremely acid
High water table: Ponded on the surface to a depth of 0.5 foot from winter through spring
Depth to bedrock: None
Flood hazard: None; water is ponded for several days to more than a month in winter and spring

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
- The ponding and wetness limit the production and harvesting of most crops.

Capability subclass: 5w

Pasture and hay

Suitability: Poorly suited
General management considerations:
- Selecting hay and pasture plants, such as fescue and white clover, that can tolerate short periods of wetness is recommended in fringe areas, which are less subject to ponding.
- Grazing should be deferred until a period from mid summer to early fall.

Woodland

Suitability: Suited to water-tolerant species
Trees suitable for planting: Sweetgum, swamp white oak, green ash, and American sycamore
General management considerations:
- This soil is limited for most operations in timber production.

Urban development

Suitability: Unsuited
General management considerations:
- The ponding and seasonal wetness are major limitations affecting all urban uses.
- Other sites in the survey area should be considered for urban development.

HbF—Hawthorne-Bodine complex, 20 to 60 percent slopes

Setting

Landscape position: Steep hillsides throughout the county
Shape of areas: Irregular
Size of areas: 5 to 850 acres
Major uses: Woodland and pasture

Composition

Hawthorne soil—55 percent
Bodine soil—45 percent

Typical Profile

Hawthorne

Surface layer:
0 to 4 inches—dark brown gravelly silt loam

Subsoil:
4 to 17 inches—yellowish brown gravelly silt loam
17 to 23 inches—dark yellowish brown very gravelly silt loam
23 to 34 inches—strong brown very gravelly silt loam
34 to 60 inches—alternating strata of highly fractured chert, siltstone, and silty clay loam

Bodine

Surface layer:
0 to 2 inches—dark grayish brown gravelly silt loam

Subsurface layer:
2 to 14 inches—yellowish brown gravelly silt loam

Subsoil:
14 to 24 inches—yellowish brown very gravelly silty clay loam
24 to 30 inches—yellowish brown very gravelly silty clay loam
30 to 60 inches—yellowish red extremely gravelly clay loam

Inclusions

- Sugargrove and Barfield soils and areas of rock outcrop

Important Soil Properties and Features

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: Hawthorne—40 to 60 inches; Bodine—more than 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The slope, hazard of erosion, low available water capacity, and depth to bedrock are limitations affecting crop production.
Capability subclass: 7s

Pasture and hay

Suitability: Poorly suited
General management considerations:
• Permanent vegetative cover is needed to prevent a high rate of erosion.
• Hardy, drought-resistant forage plants should be selected.
• Care in preventing overgrazing helps to maintain the life of the stand.
• In areas where slopes are more than 30 percent, unless access roads are built on the contour, the safe operation of farm equipment may not be possible.

Woodland

Suitability: Suited
Trees suitable for planting: Virginia pine, chestnut oak, and eastern redcedar
General management considerations:
• These soils are limited for most operations in timber management.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

HsC—Hawthorne-Sugargrove complex, 5 to 20 percent slopes

Setting

Landscape position: Rolling ridgetops throughout the county
Shape of areas: Irregular
Size of areas: 5 to 150 acres
Major uses: Woodland and pasture

Composition

Hawthorne soil—45 percent
Sugargrove soil—35 percent
Inclusions—20 percent

Typical Profile

Hawthorne

Surface layer:
0 to 10 inches—dark brown gravelly silt loam

Subsoil:
10 to 14 inches—yellowish brown gravelly silt loam
14 to 26 inches—dark yellowish brown very gravelly silt loam
26 to 34 inches—strong brown very gravelly silt loam
34 to 60 inches—alternating strata of hard fractured chert, horizontally bedded siltstone, and thin strata of silty clay loam

Sugargrove

Surface layer:
0 to 5 inches—brown gravelly silt loam

Subsurface layer:
5 to 16 inches—light yellowish brown gravelly silt loam

Subsoil:
16 to 30 inches—strong brown gravelly silty clay loam
30 to 44 inches—strong brown channery silty clay loam that has brownish and reddish mottles
44 to 60 inches—horizontally bedded, highly fractured siltstone that has thin strata of silty clay loam between and coating rock fragments

Inclusions

• Bodine soils in the lower landscape positions

Important Soil Properties and Features

Drainage class: Hawthorne—somewhat excessively drained; Sugargrove—well drained
Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Extremely acid to strongly acid
High water table: None
Depth to bedrock: Hawthorne—20 to 40 inches; Sugargrove—40 inches or more

Use and Management

Cropland

Suitability: Poorly suited

General management considerations:
• The low available water capacity, droughtiness, and shallow depth to bedrock are limitations affecting crop production.
Capability subclass: 4s

Pasture and hay

Suitability: Suited
General management considerations:
• Permanent vegetative cover is needed to prevent a high rate of erosion.
• Hardy, drought-resistant forage plants should be selected.
• Care in preventing overgrazing helps to maintain the life of the stand.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Suited
Trees suitable for planting: Virginia pine, chestnut oak, and eastern redcedar
General management considerations:
• The main limitations affecting timber production are suitability for log landings, a soil rutting hazard, a hazard of erosion on roads and trails, suitability for roads, and suitability for mechanical site preparation.

Urban development

Suitability: Suited
General management considerations:
• The depth to bedrock is a limitation affecting dwellings with and without basements and septic tank absorption fields.
• Other sites in the survey area should be considered for urban development.

HuC—Humphreys gravelly silt loam, 5 to 12 percent slopes

Setting

Landscape position: Footslopes and terraces throughout the county
Shape of areas: Irregular
Size of areas: 5 to 20 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—dark brown gravelly silt loam

Subsoil:
6 to 18 inches—dark yellowish brown gravelly silt loam
18 to 35 inches—brown gravelly silty clay loam
35 to 46 inches—yellowish brown very gravelly clay loam

Substratum:
46 to 60 inches—dark yellowish brown extremely gravelly clay loam

Inclusions

• Etowah and Mimosa soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Strongly acid to moderately acid
High water table: None
Depth to bedrock: None

Use and Management

Cropland

Suitability: Suited
General management considerations:
• A suitable conservation tillage system is needed to prevent damage from erosion.
• Coarse fragments on or near the soil surface can hinder tillage and reduce the amount of moisture available to plants in dry years.
• Practices that include no-till farming, contour cultivation, stripcropping, and growing cover crops increase soil moisture and minimize erosion.
• Using cropping systems that include grasses, legumes, or grass-legume mixtures; rotating crops; and returning crop residue to the soil help to maintain or improve tilth.
Capability subclass: 3e

Pasture and hay

Suitability: Well suited
General management considerations:
• In dry years, the low available water capacity can reduce the hay yields of moisture-sensitive crops, such as alfalfa.
• Rotating grazing, controlling weeds, and applying fertilizer annually help to maintain the quality and quantity of forage.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, sweetgum, American sycamore, black walnut, and white oak

General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Well suited
General management considerations:
• Dwellings and small commercial buildings on footslopes may be affected by seasonal wetness resulting from seepage from the higher areas.
• Subsurface tile drainage helps to divert seep water around areas that are used for septic tank filter fields and dwellings.

Ln—Lindell silt loam, occasionally flooded

Setting

Landscape position: Flood plains throughout the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 20 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 13 inches—brown silt loam
13 to 20 inches—brown silty clay loam
20 to 42 inches—yellowish brown silty clay loam

Substratum:
42 to 65 inches—yellowish brown and light gray silty clay loam

Inclusions

• Arrington soils on similar landscapes

Important Soil Properties and Features

Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to slightly alkaline
High water table: Apparent at a depth of 1.5 to 2.0 feet in winter and spring
Depth to bedrock: None
Flood hazard: Occasional for very brief periods in winter and spring

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• Most locally adapted crops grow well on this soil, and high yields can be obtained.
• Damage from flooding is the major limitation affecting crop production.
Capability subclass: 2w

Pasture and hay

Suitability: Well suited
General management considerations:
• Selecting plants, such as tall fescue and white clover, that can tolerate brief periods of flooding is recommended.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, sweetgum, white oak, cherrybark oak, and black walnut
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

MmC2—Mimosa silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Ridges and side slopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 500 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 21 inches—yellowish brown silty clay
21 to 38 inches—yellowish brown clay that has brownish and reddish mottles
38 to 47 inches—yellowish brown clay that has brownish, reddish, and yellowish mottles

47 to 56 inches—light olive brown clay that has grayish and reddish mottles
56 inches—hard limestone bedrock

Inclusions

- Humphreys, Etowah, and Armour soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: 40 to 60 inches

Use and Management

Cropland

Suitability: Suited
General management considerations:
- A suitable conservation tillage system is needed to prevent damage from erosion.
- Practices that include no-till farming, contour cultivation, stripcropping, and growing cover crops increase soil moisture and minimize erosion.

Capability subclass: 4e

Pasture and hay

Suitability: Well suited
General management considerations:
- Permanent vegetative cover is needed to prevent erosion.
- Hardy forage plants should be selected when establishing pasture.
- Care in preventing overgrazing helps to maintain the life of the stand.

Woodland

Suitability: Well suited
Trees suitable for planting: Loblolly pine, chestnut oak, and eastern redcedar
General management considerations:
- The main limitations affecting timber production are a soil rutting hazard and suitability for mechanical site preparation.

Urban development

Suitability: Poorly suited
General management considerations:
- The depth to bedrock, shrink-swell potential, and very slow permeability are the main limitations affecting septic tank absorption fields and dwellings with and without basements.
- Special design and proper construction are needed for septic systems.

MmD2—Mimosa silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides and footslopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 150 acres
Major uses: Woodland, pasture, and hay

Typical Profile

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 21 inches—yellowish brown silty clay
21 to 38 inches—yellowish brown clay that has brownish and reddish mottles
38 to 47 inches—yellowish brown clay that has brownish, reddish, and yellowish mottles
47 to 56 inches—light olive brown clay that has grayish and reddish mottles
56 inches—hard limestone bedrock

Inclusions

- Barfield, Ashwood, Etowah, and Dellrose soils and areas of rock outcrop on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: 40 to 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
- The slope, low available water capacity, and hazard of erosion are limitations affecting crop production.

Capability subclass: 6e

Pasture and hay

Suitability: Suited
General management considerations:
- Permanent vegetative cover is needed to prevent a high rate of erosion.

• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Suited
Trees suitable for planting: Loblolly pine, chestnut oak, and eastern redcedar
General management considerations:
• The main limitations affecting timber production are suitability for log landings, a soil rutting hazard, and suitability for mechanical site preparation.

Urban development

Suitability: Unsuited
General management considerations:
• The slope, depth to bedrock, shrink-swell potential, and very slow permeability are the main limitations affecting septic tank absorption fields, dwellings with and without basements, and local roads and streets.
• Other sites in the survey area should be considered for urban development.

MmE2—Mimosa silt loam, 20 to 40 percent slopes, eroded

Setting

Landscape position: Hillsides throughout the county
Shape of areas: Irregular
Size of areas: 5 to 150 acres
Major uses: Woodland and pasture

Typical Profile

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 21 inches—yellowish brown silty clay
21 to 38 inches—yellowish brown clay that has brownish and reddish mottles
38 to 47 inches—yellowish brown clay that has brownish, reddish, and yellowish mottles
47 to 56 inches—light olive brown clay that has grayish and reddish mottles
56 inches—hard limestone bedrock

Inclusions

• Barfield, Ashwood, and Dellrose soils and areas of rock outcrop on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: 40 to 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The slope, available water capacity, and hazard of erosion are limitations affecting crop production.
Capability subclass: 7e

Pasture and hay

Suitability: Poorly suited
General management considerations:
• Permanent vegetative cover is needed to prevent a high rate of erosion.
• Hardy forage plants should be selected when establishing pasture.
• Care in preventing overgrazing helps to maintain the life of the stand.
• In areas where slopes are more than 30 percent, unless access roads are built on the contour, the safe operation of farm equipment may not be possible.

Woodland

Suitability: Suited
Trees suitable for planting: Loblolly pine, chestnut oak, and eastern redcedar
General management considerations:
• This soil is limited for most operations in timber management.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

MnD—Mimosa-Rock outcrop complex, 12 to 20 percent slopes

Setting

Landscape position: Hillsides and footslopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 500 acres
Major uses: Pasture

Composition

Mimosa soil—50 percent

Rock outcrop—35 percent
Inclusions—15 percent

Typical Profile

Mimosa

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 21 inches—yellowish brown silty clay
21 to 38 inches—yellowish brown clay that has brownish and reddish mottles
38 to 47 inches—yellowish brown clay that has brownish, yellowish, and reddish mottles
47 to 56 inches—light olive brown clay that has grayish and reddish mottles
56 inches—hard limestone bedrock

Rock outcrop

Rock outcrop consists of limestone bedrock that extends from a few inches to 1 to 2 feet above the surface of the soil.

Inclusions

• Barfield and Ashwood soils on similar landscapes

Important Properties and Features of the Mimosa Soil

Drainage class: Well drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: 40 to 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The slope, low available water capacity, and hazard of erosion are limitations affecting crop production.
• Areas of rock outcrop severely limit crop production.
Capability subclass: 6s

Pasture and hay

Suitability: Suited
General management considerations:
• Permanent vegetative cover is needed to prevent erosion.
• Hardy forage plants should be selected when establishing pasture.
• Care in preventing overgrazing helps to maintain the life of the stand.

Woodland

Suitability: Suited
Trees suitable for planting: Loblolly pine, chestnut oak, and eastern redcedar
General management considerations:
• The main limitations affecting timber production are areas of rock outcrop, a soil rutting hazard, a hazard of erosion on roads and trails, and suitability for mechanical site preparation.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

MnE—Mimosa-Rock outcrop complex, 20 to 40 percent slopes

Setting

Landscape position: Hillsides and footslopes throughout the county
Shape of areas: Irregular
Size of areas: 5 to 500 acres
Major uses: Pasture

Composition

Mimosa soil—50 percent
Rock outcrop—35 percent
Inclusions—15 percent

Typical Profile

Mimosa

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 21 inches—yellowish brown silty clay
21 to 38 inches—yellowish brown clay that has brownish and reddish mottles
38 to 47 inches—yellowish brown clay that has brownish, yellowish, and reddish mottles
47 to 56 inches—light olive brown clay that has grayish and reddish mottles
56 inches—hard limestone bedrock

Rock outcrop

Rock outcrop consists of limestone bedrock that extends from a few inches to 1 to 2 feet above the surface of the soil.

Inclusions

- Barfield and Ashwood soils on similar landscapes

Important Properties and Features of the Mimosa Soil

Drainage class: Well drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to very strongly acid
High water table: None
Depth to bedrock: 40 to 60 inches

Use and Management

Cropland

Suitability: Unsuited
General management considerations:
• The slope and areas of rock outcrop are major limitations affecting crop production.
Capability subclass: 7s

Pasture and hay

Suitability: Poorly suited
General management considerations:
• Permanent vegetative cover is needed to prevent a high rate of erosion.
• The numerous rock outcrops and the slope restrict pasture management in most areas.
• Hardy forage plants should be selected when establishing pasture.
• Care in preventing overgrazing helps to maintain the life of the stand.

Woodland

Suitability: Suited
Trees suitable for planting: Loblolly pine, chestnut oak, and eastern redcedar
General management considerations:
• This map unit is limited for most operations in timber management.

Urban development

Suitability: Unsuited
General management considerations:
• Other sites in the survey area should be considered for urban development.

MoA—Mountview silt loam, 0 to 2 percent slopes

Setting

Landscape position: Nearly level ridges in the eastern part of the county
Shape of areas: Irregular
Size of areas: 5 to 120 acres
Major uses: Cropland and hay

Typical Profile

Surface layer:
0 to 8 inches—dark brown silt loam

Subsoil:
8 to 15 inches—yellowish brown silt loam
15 to 30 inches—yellowish brown silt loam that has brownish mottles
30 to 40 inches—yellowish brown and pale brown silt loam
40 to 80 inches—strong brown silty clay loam that has reddish and brownish mottles

Inclusions

- Dickson soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained or moderately well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to very strongly acid
High water table: None
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting cropland.
• No-till planting, contour cultivation, and stripcropping can help to control erosion and maintain productivity.
Capability subclass: 1

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting pasture and hay.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, and southern red oak

General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Well suited
General management considerations:
• Low strength is a limitation affecting local roads and streets.
• In some areas, a special design may be needed for septic systems.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

MoB—Mountview silt loam, 2 to 5 percent slopes

Setting

Landscape position: Undulating ridges in the eastern part of the county
Shape of areas: Irregular
Size of areas: 5 to 315 acres
Major uses: Cropland and hay

Typical Profile

Surface layer:
0 to 8 inches—dark brown silt loam

Subsoil:
8 to 15 inches—yellowish brown silt loam
15 to 30 inches—yellowish brown silt loam that has brownish mottles
30 to 40 inches—yellowish brown and pale brown silt loam
40 to 80 inches—strong brown silty clay loam that has reddish and brownish mottles

Inclusions

• Dickson soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained or moderately well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to very strongly acid
High water table: None
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• Most locally adapted crops can be grown, and good yields can be obtained if management includes erosion control.
• No-till planting, contour farming, and stripcropping can help to control erosion and maintain productivity.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting pasture and hay.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, and southern red oak
General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Well suited
General management considerations:
• Low strength is a major limitation affecting local roads and streets.
• In some areas, a special design may be needed for septic systems.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.
• Increasing the size of the absorption field and placing filter lines on the contour help to overcome the restricted permeability and the slope.

MoC2—Mountview silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Rolling ridges in the eastern part of the county
Shape of areas: Irregular
Size of areas: 5 to 150 acres
Major uses: Cropland and hay

Typical Profile

Surface layer:
0 to 4 inches—dark brown silt loam

Subsoil:
4 to 12 inches—yellowish brown silt loam
12 to 24 inches—yellowish brown silt loam that has brownish mottles
24 to 40 inches—yellowish brown and pale brown silt loam
40 to 80 inches—strong brown silty clay loam that has reddish and brownish mottles

Inclusions

• Dickson soils in the lower positions on ridges

Important Soil Properties and Features

Drainage class: Well drained or moderately well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to very strongly acid, except in limed areas
High water table: None
Depth to bedrock: More than 60 inches

Use and Management

Cropland

Suitability: Suited
General management considerations:
• The hazard of erosion is a limitation affecting crop production.
• No-till planting, contour cultivation, and stripcropping can help to control erosion and maintain productivity.
Capability subclass: 3e

Pasture and hay

Suitability: Well suited
General management considerations:
• If the plants are overgrazed or if plant stands are poor, the slope increases the hazard of erosion.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, loblolly pine, and southern red oak
General management considerations:
• The main limitations affecting timber management are a soil rutting hazard and a hazard of erosion on roads and trails.

Urban development

Suitability: Suited
General management considerations:
• The slope is the main limitation affecting septic tank absorption fields.
• In some areas, a special design may be needed for septic systems.
• Low strength and the slope are major limitations affecting local roads and streets.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

NeB—Nesbitt silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces in the central part of the county
Shape of areas: Irregular
Size of areas: 5 to 20 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown silt loam

Subsoil:
6 to 20 inches—yellowish brown silt loam
20 to 29 inches—yellowish brown silty clay loam that has brownish and grayish mottles
29 to 45 inches—yellowish brown silty clay loam that has brownish and grayish mottles
45 to 60 inches—yellowish brown silty clay that has brownish and grayish mottles

Inclusions

• Armour and Trace soils on similar landscapes

Important Soil Properties and Features

Drainage class: Moderately well drained
Permeability: Moderate or moderately slow
Available water capacity: High
Soil reaction: Moderately acid or strongly acid
High water table: Perched at a depth of 1.5 to 2.5 feet in winter and spring
Depth to bedrock: None

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• Most climatically adapted crops grow well if they are managed with erosion-control measures.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• Because of the seasonal wetness, only hay and pasture plants that can tolerate short periods of wetness, such as fescue and white clover, should be selected.
• A perched water table limits grazing for several days at a time during winter and early spring.
• Grazing should be deferred until a period from late spring to early fall.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, sweetgum, white oak, and cherrybark oak
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Suited
General management considerations:
• The wetness and slow permeability are the main limitations affecting septic tank absorption fields and dwellings with and without basements.
• A special design may be needed for septic systems.
• Installing surface and subsurface drainage and taking care to properly seal basement walls and foundations minimize wetness.
• Suitable base material should be provided before constructing roads and streets.

Pt—Pits, gravel

This map unit consists of chert and gravel pits. On uplands, many areas have nearly vertical walls of exposed chert. Most areas of this unit have been mined for a source of roadfill. This unit is not suited to cropland, pasture and hay, woodland, or urban development. Soils in this unit are extremely acid and droughty and have a restricted rooting depth.

No capability class is assigned to this map unit.

Ta—Taft silt loam

Setting

Landscape position: Upland flats, stream terraces, and depressions in the eastern part of the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 300 acres
Major uses: Woodland

Typical Profile

Surface layer:
0 to 2 inches—dark grayish brown silt loam

Subsurface layer:
2 to 6 inches—grayish brown silt loam

Subsoil:
6 to 14 inches—light yellowish brown silt loam
14 to 26 inches—light yellowish brown silt loam
26 to 33 inches—light olive brown and light brownish gray silt loam fragipan
33 to 65 inches—light yellowish brown silt loam fragipan

Inclusions

• Dickson and Guthrie soils on similar landscapes

Important Soil Properties and Features

Drainage class: Somewhat poorly drained
Permeability: Slow or very slow
Available water capacity: Moderate
Soil reaction: Strongly acid or very strongly acid
High water table: Perched above the fragipan at a depth of about 1.0 to 1.5 feet in winter and early spring
Depth to bedrock: More than 60 inches
Flood hazard: None

Use and Management

Cropland

Suitability: Suited
General management considerations:
• The seasonal wetness limits the production and harvesting of some crops.
• Because of the wetness early in spring, planting short-season annuals, such as soybeans, is recommended.
Capability subclass: 3w

Pasture and hay

Suitability: Well suited
General management considerations:
• A perched water table limits grazing for several weeks at a time during winter and early spring.
• Only hay and pasture plants, such as fescue and white clover, that can tolerate short periods of wetness should be selected.

• Grazing should be deferred until a period from late spring to early fall.

Woodland

Suitability: Suited
Trees suitable for planting: Sweetgum, yellow-poplar, green ash, and white oak
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Poorly suited
General management considerations:
• The seasonal wetness and very slow permeability are limitations affecting septic tank absorption fields and dwellings with and without basements.
• Other sites in the survey area should be considered for urban development.

TrB—Trace silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landscape position: Stream terraces throughout the county
Shape of areas: Irregular
Size of areas: 5 to 100 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 10 inches—dark yellowish brown silt loam
10 to 27 inches—brown silt loam
27 to 36 inches—brown silty clay loam
36 to 39 inches—dark yellowish brown very gravelly loam

Substratum:
39 to 65 inches—yellowish brown extremely gravelly sandy loam

Inclusions

• Armour, Nesbitt, and Ennis soils on similar landscapes

Important Soil Properties and Features

Drainage class: Well drained
Permeability: Moderate in the upper part and rapid or very rapid in the lower part
Available water capacity: High
Soil reaction: Slightly acid to strongly acid
High water table: None
Depth to bedrock: None
Flood hazard: Rare

Use and Management

Cropland

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting crop production.
Capability subclass: 2e

Pasture and hay

Suitability: Well suited
General management considerations:
• This soil has no significant limitations affecting forage production.
• The quality and quantity of forage can be maintained by rotating grazing, controlling weeds, and applying fertilizer annually.

Woodland

Suitability: Well suited
Trees suitable for planting: Yellow-poplar, sweetgum, loblolly pine, black walnut, and cherrybark oak
General management considerations:
• The main limitation affecting timber production is a soil rutting hazard.

Urban development

Suitability: Suited
General management considerations:
• Flooding is a hazard in some of the lower positions.
• Low strength is a limitation affecting local roads and streets.
• If the soil is to be used as a base for roads and streets, mixing the upper part with coarser textured material helps to increase soil strength and stability.

Tu—Tupelo silt loam, occasionally flooded

Setting

Landscape position: Low stream terraces throughout the county
Shape of areas: Irregular
Slope range: 0 to 2 percent
Size of areas: 5 to 25 acres
Major uses: Pasture and hay

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 16 inches—brownish yellow silty clay loam
16 to 24 inches—brownish yellow clay that has grayish mottles
24 to 32 inches—light olive brown clay that has grayish mottles
32 to 51 inches—light brownish gray clay
51 to 60 inches—gray clay

Inclusions

• Egam and Agee soils on similar landscapes

Important Soil Properties and Features

Drainage class: Somewhat poorly drained
Permeability: Slow or very slow
Available water capacity: High
Soil reaction: Moderately acid or strongly acid
High water table: Apparent at a depth of 1.0 to 1.5 feet in winter and early spring
Depth to bedrock: None
Flood hazard: Occasional for brief periods in winter and spring

Use and Management

Cropland

Suitability: Suited
General management considerations:
• The seasonal high water table is a limitation affecting crop production.
• Planting and harvesting may be delayed in many years.
• Deep-rooted crops that are sensitive to wetness are not recommended.
Capability subclass: 3w

Pasture and hay

Suitability: Suited
General management considerations:
• Plant selection and good management are important in maintaining productivity.
• Grazing when the soil is wet causes compaction, reduces plant cover, and encourages the growth of undesirable species.

Woodland

Suitability: Suited
Trees suitable for planting: Sweetgum, yellow-poplar, swamp white oak, and American sycamore
General management considerations:
• The main limitation affecting timber management is a soil rutting hazard.

Urban development

Suitability: Unsuited
General management considerations:
• Flooding and wetness are limitations affecting septic tank absorption fields, dwellings with and without basements, and local roads and streets.
• Low strength is a limitation affecting local roads and streets.
• Other sites in the survey area should be considered for urban development.

Ur—Urban land

This map unit is in the city of Lynchburg and its surrounding areas. Streets, parking lots, sidewalks, buildings, and other structures cover 85 percent or more of the soil surface. There are some open areas not covered by concrete, asphalt, or buildings. However, the soils in these areas are altered by the process of urbanization and many are fill material from an unknown source. An onsite investigation is needed to determine any specific interpretations for these sites.

No capability class is assigned to this map unit.

W—Water

This map unit consists of areas inundated with water all of the year. It generally includes rivers, lakes, and ponds.

No capability class is assigned to this map unit.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; 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, slightly limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately well 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 “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Pasture and hay are the major uses of the cleared land in Moore County. Most of the landscape is too sloping for intensive cropping. Corn and tobacco are the primary row crops grown.

Additions of lime and fertilizer to all cropland, hay, and pasture should be applied according to soil test recommendations by the University of Tennessee and according to desired production.

The main grasses in pasture and hay are tall fescue and orchardgrass. The most common legumes are white clover, red clover, annual lespedeza, and sericea lespedeza.

Approximately 90 percent of all farm income is derived from livestock production. The most important practice needed in pasture management is control of grazing height. Grazing height is most effectively managed through rotational grazing. Cool-season grasses, such as tall fescue and orchardgrass, in combination with legumes, such as white clover and red clover, benefit from maintaining the pasture height between 3 and 8 inches. Maintaining a minimum height of 3 inches for vegetation allows the plant to most effectively convert solar energy into forage production. Overgrazing reduces leaf area and plant vigor, and the ultimate result is less forage production. Other practices that benefit pasture include weed control, applying nutrients according to soil tests, and renovation using legumes when the grass stand is not adequate. Stands of legumes are best maintained by maintaining proper soil fertility and by managing forage so that legumes are not shaded. Weeds can be controlled in pastures by rotational grazing, mowing, and proper use of herbicides (all pesticides should be applied according to label instructions).

Forage systems can also benefit from establishing and managing warm-season vegetation on approximately 25 percent of the acreage. Many pastures presently consist of bermudagrass, crabgrass, dallisgrass, johnsongrass, and annual lespedeza or sericea lespedeza. These forages can be managed for higher production by maintaining adequate leaf area for growth through the control of grazing and the delay of fertilization until late spring. Hybrid sorghum crosses, pearl millet, and sudangrass provide good summer pasture or hay; however, the high cost of annual establishment may offset their benefits. Small grains and annual ryegrass may be double cropped with summer forages. Winter annuals provide good grazing in late fall and early spring.

If improving wildlife habitat and forage production are a goal, planting native warm-season grasses, such as switchgrass, eastern gamagrass, big bluestem, little bluestem, and indiangrass can benefit the forage and/or wildlife systems tremendously. Of these native grasses, eastern gamagrass and switchgrass have the most potential for forage production. The minimum mowing height for native grasses is 6 inches. In addition, delaying the mowing of any forage until after August 15 benefits wildlife habitat. Ground-nesting birds benefit greatly if tracts of 5 acres or larger are planted to these native grasses.

Pasture use can be improved by increasing the availability of water for livestock. Ideally, beef cattle should not have to travel more than 800 feet to water. The best water supply for animal well being and overall quality is water from a trough. Although ponds can provide water to livestock, the water quality is questionable. Diseases are easily spread in these areas, and livestock can drown in a pond. Streams can also be used as a source of water. However, due to possible negative impacts on water quality, cattle should be allowed limited access only through a rock armored area or be in contact with the stream only for short periods when the hazard of flooding is the least.

Presently, approximately 10,500 acres are used for hay production. Most hay harvested is the surplus growth of grass-legume pastures. Rotational grazing allows more efficient use of pasture and leaves more land for hay production. Grass hay crops should be cut at the early head stage. Legumes should be harvested in the bud stage, just prior to blooming. Hay that is cut late after seed heads mature is less palatable and lower in protein and energy. Cutting perennial hay crops too short causes stands to thin out and become subject to erosion. In some cases, it can result in a premature loss of the stand.

The most important management concern on cropland in Moore County is soil erosion. Soils with more than 2 percent slopes have an erosion hazard when crops are grown using conventional tillage. Soil loss through erosion reduces productivity due to the loss of organic matter, a limited plant rooting depth, and a limited available water-holding capacity. Also, soil crusting is a problem for young seedling emergence. Most of the plant nutrients and crop protection chemicals are in the soil’s surface layer and can easily be lost through erosion. Control of erosion reduces the pollution of streams by sediment, fertilizer, and pesticides. Water quality for recreation, fish, and wildlife is improved when erosion is controlled. In addition, erosion control helps to maintain drainageways, culverts, and pumps.

A resource management system that provides protective surface cover, reduces runoff, and increases infiltration rates helps to reduce erosion losses. On livestock farms, grasses and legumes reduce runoff rates, minimize erosion, and improve soil-moisture-air relationships. Legumes take nitrogen from the air, thus reducing the amount of nitrogen fertilizer needed.

Conservation tillage is one way to reduce erosion on sloping cropland. It provides a more protective surface cover for longer periods. This reduces runoff rates and increases infiltration rates. It also increases the amount of organic material added to the soil, prevents soil compaction, and saves time and fuel. Crop residue management, field borders, the inclusion of grasses and legumes in the crop rotation, and grass waterways also help to reduce the hazard of erosion.

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 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 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.

The *productivity index* is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops *(8)*. 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 two levels—capability class and subclass.

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, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section “Detailed Soil Map Units” and in 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.

The map units in the survey area that are considered prime farmland are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Forest Productivity and Management

Virgin hardwood and cedar forest once covered all of the survey area. The trees have been cleared on most of the land that is suitable for cultivation or pasture and even on some land that is not suitable. The areas that are currently in woodland are mostly too steep, too wet, or too shallow to bedrock for farming to be practical. In most woodland areas, timber has been harvested at least once. In many areas, it has been harvested several times. Some woodland areas are abandoned cropland or pasture. In most woodland areas, the soils are well suited to the production of trees. Trees grow fast and produce high yields of good quality timber if the woodland is properly managed. The other values of woodland include wildlife habitat, recreation, aesthetics, and conservation of soil and water.

Woodland now makes up about 45,000 acres, or 54 percent of Moore County. All of the woodland is privately owned.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In table 7, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available at the local office of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forest Management

In table 8, parts I through IV, 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 well 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 table indicate the 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 specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available at the local office of the Natural Resources Conservation Service or on the Internet *(5)*.

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 offsite 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 well 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 well 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 well 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.

Recreation

The soils of the survey area are rated in table 9, parts I and II, 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 table indicate the 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 (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table 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 table 9 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 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the “Soil Properties” section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, 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. Table 11, parts I and II, 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 table 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 table indicate the 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 (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

Table 12, parts I and II, 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. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and 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 table indicate the 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 (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

Table 13, parts I and II, give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil, reclamation material, and roadfill. 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 topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 13, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

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

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 15 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 16 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.

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.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 16, 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 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 (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (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 16, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 16 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of 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 Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Chemical Properties

Table 17 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.

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.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 18 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.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 18 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 18 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered 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.

Soil Features

Table 19 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(6, 7)*. 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 20 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 Alfisol.

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 Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

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, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, mixed, semiactive, thermic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, 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” *(9)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(7)* and in “Keys to Soil Taxonomy” *(6)*. Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Agee Series

The Agee series consists of very deep, poorly drained soils. These soils formed in clayey alluvium or partly in clayey alluvium and the underlying residuum of limestone on flood plains and stream terraces throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Agee silty clay loam, rarely flooded; Lincoln County, Tennessee; from Fayetteville, 15 miles west on Tennessee Highway 273, about 2.25

miles south on Cheatham Road, 75 feet north into a field; USGS Dellrose Quadrangle; lat. 35 degrees 05 minutes 05 seconds N. and long. 86 degrees 48 minutes 05 seconds W.

Ap—0 to 10 inches; very dark gray (10YR 3/1) silty clay loam; moderate medium granular structure; friable; common fine and medium roots; common fine black (10YR 2/1) and dark brown (10YR 3/3) soft manganese accumulations; slightly acid; clear smooth boundary.

Bg1—10 to 14 inches; dark gray (5Y 4/1) silty clay; moderate medium subangular blocky structure; firm; slightly sticky; slightly plastic; few fine roots; common fine black (10YR 2/1) and dark brown (10YR 3/3) soft manganese accumulations; common fine prominent light olive brown (2.5Y 5/4) iron accumulations throughout; slightly acid; gradual smooth boundary.

Bg2—14 to 26 inches; dark gray (5Y 4/1) clay; moderate medium prismatic structure parting to moderate medium subangular and angular blocky; firm; moderately sticky; moderately plastic; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) soft manganese accumulations and concretions; common medium distinct olive (5Y 5/3) iron accumulations and spherical concretions throughout; common medium distinct olive gray (5Y 5/2) iron depletions along faces of prisms; slightly acid; gradual smooth boundary.

Bg3—26 to 42 inches; gray (5Y 5/1) clay; weak medium subangular blocky structure; firm; moderately sticky; moderately plastic; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) soft manganese accumulations and concretions; common fine olive brown (2.5Y 4/4) iron accumulations and spherical concretions throughout; neutral; gradual smooth boundary.

Cg—42 to 65 inches; 25 percent gray (5Y 5/1), 25 percent light olive gray (5Y 6/2), 25 percent olive (5Y 5/3), and 25 percent light olive brown (2.5Y 5/6) clay; massive; very firm; very sticky; very plastic; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese concretions; 5 percent subrounded gravel; neutral.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 5 percent. Reaction ranges from moderately acid to slightly alkaline.

The Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. Texture is silty clay loam.

The Bg horizon has hue of 10YR, 2.5Y, or 5Y, value of 4 or 5, and chroma of 1 or 2. It has few or common redoximorphic features in shades of gray, black, olive, and brown. Texture is silty clay or clay.

The Cg horizon has the same colors as the Bg horizon or has an evenly mottled pattern without a dominant matrix color. Texture is clay.

Armour Series

The Armour series consists of very deep, well drained soils. These soils formed in old alluvium or in alluvium and the underlying clayey residuum of limestone on stream terraces throughout the county. Slopes range from 2 to 5 percent.

Typical pedon of Armour silt loam, 2 to 5 percent slopes; from Lynchburg, 1.75 miles south on Tennessee Highway 55, about 6 miles southeast on Tennessee Highway 50, about 250 feet west into a field; USGS Lois Quadrangle; lat. 35 degrees 11 minutes 54 seconds N. and long. 86 degrees 37 minutes 49 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium granular structure; very friable; common fine and medium roots; common irregular pores; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; moderately acid; clear wavy boundary.

BA—7 to 17 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; common fine roots; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; moderately acid; clear smooth boundary.

Bt1—17 to 26 inches; strong brown (7.5YR 4/6) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; few distinct brown (7.5YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—26 to 47 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct brown (7.5YR 4/3) clay films; 5 percent rounded and subangular gravel; moderately acid; clear wavy boundary.

Bt3—47 to 65 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many prominent brown (7.5YR 4/3) clay films on faces of peds; 5 percent rounded and subangular gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 10 percent in the upper 40 inches of the profile and from 0 to 35 below a depth of 40 inches. Reaction ranges from slightly acid to strongly acid throughout the profile.

The A horizon has hue of 10YR and value and chroma of 3 or 4. Texture is silt loam.

Thin transitional horizons occur in some pedons. They are similar in color and texture to the adjacent horizons.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6. It has mottles in shades of brown and yellow. Texture is silt loam or silty clay loam.

Arrington Series

The Arrington series consists of very deep, well drained soils. These soils formed in silty alluvium on flood plains in the southwestern part of the county. Slopes range from 0 to 2 percent.

Typical pedon of Arrington silt loam, frequently flooded; Lincoln County, Tennessee; from Fayetteville, 4.8 miles east on U.S. Highway 64, about 300 feet due south of the road; USGS Mulberry Quadrangle; lat. 35 degrees 08 minutes 23 seconds N. and long. 86 degrees 29 minutes 21 seconds W.

Ap—0 to 10 inches; dark brown (10YR 3/3) silt loam; moderate medium granular structure; very friable; common fine and medium roots; slightly acid; abrupt wavy boundary.

A—10 to 24 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium subangular blocky structure; friable; few fine roots; slightly acid; gradual smooth boundary.

Bw1—24 to 34 inches; very dark grayish brown (7.5YR 3/2) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; slightly acid; gradual smooth boundary.

Bw2—34 to 51 inches; very dark grayish brown (7.5YR 3/2) silt loam; common medium distinct dark brown (7.5YR 3/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; moderately acid; gradual smooth boundary.

C—51 to 60 inches; 34 percent yellowish brown (10YR 5/4), 33 percent dark grayish brown (10YR 4/3), and 33 percent strong brown (7.5YR 5/6) silty clay loam; weak coarse and medium subangular blocky structure; firm; slightly acid.

Depth to bedrock is more than 60 inches. Thickness of the mollic epipedon ranges from 24 to 51 inches. The content of rock fragments ranges from 0 to 5 percent in the A and B horizons and from 0 to 15 percent in the C horizon. Reaction ranges from slightly acid to slightly alkaline throughout the profile.

The Ap or A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is silt loam.

The Bw horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4. It has few or common mottles in shades of brown. Texture is silt loam or silty clay loam.

The C horizon has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. In some pedons, it has an evenly mottled pattern in these colors without a dominant matrix color. The horizon has few or common mottles in shades of brown. Texture is silt loam, silty clay loam, or clay loam.

Ashwood Series

The Ashwood series consists of moderately deep, well drained soils. These soils formed in clayey residuum of limestone on hillsides throughout the county. Slopes range from 5 to 45 percent.

Typical pedon of Ashwood silty clay loam in an area of Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes; from Lynchburg, 1.8 miles south on Tennessee Highway 55, about 1,000 feet west into Jack Daniels bottling complex, 1,000 feet north on the hillside; USGS Lynchburg West Quadrangle; lat. 35 degrees 15 minutes 54 seconds N. and long. 86 degrees 23 minutes 46 seconds W.

A1—0 to 2 inches; very dark grayish brown (10YR 3/2) silty clay loam; strong medium and fine granular structure; friable; many fine, common medium, and few coarse roots; 10 percent angular and subangular gravel; neutral; abrupt smooth boundary.

A2—2 to 12 inches; dark brown (10YR 3/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine, common medium, and few coarse roots; 14 percent angular and subangular gravel; neutral; clear wavy boundary.

Bt1—12 to 17 inches; yellowish brown (10YR 5/6) clay; common medium distinct dark brown (10YR 3/3) mottles on faces of peds; moderate medium subangular blocky structure; very firm; moderately sticky; moderately plastic; few fine roots; few pressure faces; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; 10 percent angular and subangular gravel; neutral; clear wavy boundary.

Bt2—17 to 35 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm; moderately sticky; moderately plastic; common pressure faces; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; common fine black (10YR 2/1) and dark brown (10YR 3/3) spherical iron and manganese concretions throughout the matrix; 14 percent angular and subangular gravel; neutral; abrupt smooth boundary.

R—35 inches; hard limestone bedrock.

Depth to bedrock ranges from 20 to 40 inches. The content of gravel ranges from 0 to 15 percent in the A and B horizons and from 5 to 25 percent in the BC and C horizons. Reaction ranges from moderately acid to slightly alkaline throughout the profile.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is silt loam, silty clay loam, or, rarely, silty clay.

The Bt horizon, below the mollic epipedon, has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 or 6. It has few or common mottles in shades of brown or olive. Texture is clay or silty clay.

The BC and C horizons, if they occur, have colors and textures similar to those of the Bt horizon.

Barfield Series

The Barfield series consists of shallow, well drained soils. These soils formed in residuum from limestone on hillsides throughout the county. Slopes range from 5 to 40 percent.

Typical pedon of Barfield silty clay loam in an area of Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes; from Lynchburg, 3.43 miles southwest on Tennessee Highway 55, about 0.1 mile northwest of the intersection of Tennessee Highway 55 and a gravel road, 360 feet southwest of the gravel road in woods; USGS Lynchburg West Quadrangle; lat. 35 degrees 15 minutes 03 seconds N. and long. 86 degrees 24 minutes 39 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate fine and moderate medium granular structure; friable; few fine, medium, and coarse roots; few fine vesicular pores; 5 percent channers and flagstones of limestone; neutral; clear smooth boundary.

Bw—3 to 7 inches; dark brown (10YR 3/3) silty clay; strong medium subangular blocky structure; firm; few fine, medium, and coarse roots; few fine vesicular pores; 10 percent channers and flagstones of limestone; neutral; clear smooth boundary.

BC—7 to 12 inches; olive brown (2.5Y 4/4) clay; common medium distinct dark brown (10YR 4/3) mottles; moderate medium subangular blocky structure; 10 percent channers and flagstones of limestone; neutral; abrupt smooth boundary.

R—12 inches; hard limestone bedrock.

Depth to bedrock ranges from 10 to 20 inches. The content of limestone channers and flagstones ranges from 5 to 35 percent in the Bw and BC horizons. Reaction ranges from slightly acid to slightly alkaline throughout the profile.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is silty clay loam.

The Bw horizon has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is silty clay or clay.

The BC or C horizon has hue of 10YR or 2.5Y and value and chroma of 4 or 5. It has none or few mottles in shades of brown. Texture is silty clay or clay.

Bodine Series

The Bodine series consists of very deep, somewhat excessively drained, gravelly soils. These soils formed in residuum weathered from cherty limestone on steep hillsides throughout the county. Slopes range from 20 to 60 percent.

Typical pedon of Bodine gravelly silt loam in an area of Hawthorne-Bodine complex, 20 to 60 percent slopes; from Lynchburg, 1.5 miles south on Tennessee Highway 55, about 2.75 miles southeast on Tennessee Highway 50, about 100 feet west of the road; USGS Lynchburg East Quadrangle; lat. 35 degrees 15 minutes 11 seconds N. and long. 86 degrees 21 minutes 34 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) gravelly silt loam; moderate medium granular structure; very friable; many fine roots; common fine vessicular pores; 20 percent angular and subangular gravel; strongly acid; clear smooth boundary.

E—2 to 14 inches; yellowish brown (10YR 5/4) gravelly silt loam; moderate medium granular structure; friable; common fine roots; common fine and medium vessicular pores; 20 percent angular and subangular gravel; strongly acid; clear wavy boundary.

Bt1—14 to 24 inches; yellowish brown (10YR 5/6) very gravelly silty clay loam; moderate medium subangular blocky structure; friable; common medium roots; common medium vessicular pores; few faint clay films on faces of peds and on rock fragments; 60 percent angular and subangular gravel; strongly acid; clear smooth boundary.

Bt2—24 to 30 inches; yellowish brown (10YR 5/8) very gravelly silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common medium vesicular pores; common distinct yellowish brown (10YR 5/6) clay films on faces of peds and on rock fragments; 60 percent angular and subangular gravel; strongly acid; gradual smooth boundary.

Bt3—30 to 60 inches; yellowish red (5YR 5/8) extremely gravelly clay loam; moderate medium and weak medium subangular blocky structure; friable; common fine vessicular pores; common faint clay films on faces of peds and on rock fragments; 75 percent angular and subangular gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 20 to 85 percent throughout the profile. Reaction ranges from moderately acid to extremely acid.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 or 3. Texture of the fine-earth fraction is silt loam.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 3 or 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 10YR to 5YR, value of 5 or 6, and chroma of 4 to 8. It has mottles in shades of brown, yellow, and red. Texture of the fine-earth fraction is silty clay loam or clay loam.

Dellrose Series

The Dellrose series consists of very deep, well drained soils. These soils formed in cherty colluvium and the underlying clayey residuum on hillsides and footslopes throughout the county. Slopes range from 5 to 45 percent.

Typical pedon of Dellrose gravelly silt loam, 20 to 40 percent slopes; from Lynchburg, 3 miles north on Tennessee Highway 55, about 1 mile southeast on Pleasant Hill Road, 0.5 mile north on Martin Hollow Road, 100 feet south of the road; USGS Lynchburg East Quadrangle; lat. 35 degrees 18 minutes 48 seconds N. and long. 86 degrees 20 minutes 04 seconds W.

A—0 to 8 inches; dark brown (10YR 3/3) gravelly silt loam; moderate medium granular structure; very friable; many fine, few medium, and few coarse roots; 15 percent angular and subangular gravel; moderately acid; clear smooth boundary.

Bt1—8 to 14 inches; yellowish brown (10YR 5/6) gravelly silt loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine and medium roots; common fine and medium irregular pores; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; 20 percent angular and subangular fragments of chert; strongly acid; clear wavy boundary.

Bt2—14 to 32 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; common medium distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine and medium roots; common fine and medium irregular pores; common distinct brown (7.5YR 5/4) clay films on faces of peds, in pore linings, and on rock fragments; 35 percent angular and subangular fragments of chert; strongly acid; clear wavy boundary.

Bt3—32 to 80 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few fine roots; common fine irregular pores; common distinct brown (7.5YR 5/4) clay films on faces of peds, in pores, and on rock fragments; 25 percent angular and subangular fragments of chert; strongly acid.

Depth to bedrock is more than 60 inches. The content of fragments of chert ranges from 10 to 35 percent in each horizon and can range from 35 to 50 percent in individual layers of the Bt horizon. Reaction ranges from moderately acid to very strongly acid throughout the profile.

The A or Ap horizon has hue of 10YR and value and chroma of 3 or 4. Texture is silt loam or gravelly silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 5 or 6. It has none or few mottles in shades of yellow, brown, and red. Texture of the fine-earth fraction is silt loam or silty clay loam.

The 2Bt horizon, if it occurs, has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 5 or 6. It has few or common mottles in shades of yellow, brown, and red. Texture is silty clay, silty clay loam, or clay or their gravelly analogs.

Dickson Series

The Dickson series consists of very deep, moderately well drained soils that have a fragipan. These soils formed in a silty mantle and the underlying residuum of limestone on uplands in the eastern part of the county. Slopes range from 0 to 5 percent.

Typical pedon of Dickson silt loam, 2 to 5 percent slopes; from Lynchburg, 9 miles northeast on Tennessee Highway 55, about 0.5 mile north into woods; USGS Lynchburg East Quadrangle; lat. 35 degrees 21 minutes 50 seconds N. and long. 86 degrees 16 minutes 58 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; many fine and few medium and coarse roots; very strongly acid; clear smooth boundary.

BE—2 to 12 inches; 60 percent light yellowish brown (2.5Y 6/4) and 40 percent pale brown (10YR 6/3) silt loam; weak medium subangular blocky structure; very friable; many fine and few medium roots; few fine black (10YR 2/1) and dark brown (10YR 3/3) irregular manganese and iron concretions and nodules throughout the matrix; strongly acid; clear smooth boundary.

Bt1—12 to 17 inches; light olive brown (2.5Y 5/6) silt loam; weak medium subangular blocky structure; friable; few fine and few medium roots; few faint clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) irregular manganese and iron concretions and nodules throughout the matrix; strongly acid; gradual smooth boundary.

Bt2—17 to 27 inches; light olive brown (2.5Y 5/6) silt loam; moderate medium subangular blocky structure; few fine and medium roots; few faint clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) irregular manganese and iron concretions and nodules throughout the matrix; common medium prominent light brownish gray (10YR 6/2) iron depletions; common coarse distinct yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear wavy boundary.

Btx1—27 to 32 inches; light olive brown (2.5Y 5/6) silt loam; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots in vertical seams; common medium distinct yellowish brown (10YR 5/6) clay films on faces of prisms in vertical seams; 30 percent light brownish gray (10YR 6/2) silt loam as coatings in vertical seams between prisms; common medium distinct black (10YR 2/1) and dark brown (10YR 3/3) irregular manganese and iron concretions throughout the matrix; brittle in 60 percent of the mass; very strongly acid; clear wavy boundary.

Btx2—32 to 42 inches; 25 percent light olive brown (2.5Y 5/6), 25 percent yellowish brown (10YR 5/6), 25 percent light brownish gray (10YR 6/2), and 25 percent dark yellowish brown (10YR 4/4) silty clay loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine vesicular pores; common distinct yellowish brown (10YR 5/6) clay films on faces of prisms in vertical seams; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions and irregular accumulations throughout the matrix; common medium distinct light gray (10YR 7/1) silt loam iron and clay depletions in vertical seams between prisms; brittle in more than 60 percent of the mass; very strongly acid; gradual wavy boundary.

2Bt—42 to 65 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few distinct brown (7.5YR 5/4) clay films on faces of peds; many medium prominent gray (10YR 6/1) iron depletions; common medium prominent red (2.5YR 4/8) iron concentrations on faces of peds; 12 percent angular fragments of chert; very strongly acid.

Depth to bedrock is more than 60 inches. Depth to the fragipan ranges from 21 to 32 inches. Reaction is very strongly acid or strongly acid throughout the profile.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is silt loam.

The BE horizon, if it occurs, has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 3 or 4. Texture is silt loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 or 6. The lower part of the horizon has none or few redoximorphic features in shades of brown, yellow, and gray. The horizon is silt loam or silty clay loam.

The Btx horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 or 6. It has few or common redoximorphic features in shades of brown, yellow, red, and gray. In many pedons, the horizon has an evenly mottled pattern without a dominant matrix color. Texture is silt loam or silty clay loam.

The 2Bt horizon has hue of 7.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. It has few or common redoximorphic features in shades of brown, yellow, red, and gray. Texture is silty clay loam or silty clay or their gravelly analogs.

Egam Series

The Egam series consists of very deep, well drained and moderately well drained soils. These soils formed in clayey alluvium on flood plains throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Egam silt loam, occasionally flooded; from Lynchburg, 4 miles west on Tennessee Highway 129, about 0.5 mile south on Duck Branch Road, 50 feet east into a field; USGS Lynchburg West Quadrangle; lat. 35 degrees 16 minutes 05 seconds N. and long. 86 degrees 26 minutes 08 seconds W.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam; moderate medium subangular blocky structure; friable; many fine and medium roots; slightly acid; clear smooth boundary.

Bw1—5 to 24 inches; very dark grayish brown (10YR 3/2) silty clay; moderate medium subangular blocky structure; firm; common fine roots; common fine irregular pores; many medium distinct dark brown (10YR 3/3) clay films on faces of peds and in linings of pores; neutral; clear smooth boundary.

Bw2—24 to 35 inches; olive brown (2.5Y 4/3) clay; moderate medium subangular blocky structure; very firm; common fine roots; common fine irregular pores; common medium distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds and in linings of pores; neutral; clear wavy boundary.

C1—35 to 50 inches; light olive brown (2.5Y 5/4) silty clay loam; common fine faint light yellowish brown (2.5YR 6/4) mottles; massive; firm; common medium black (2.5Y 2.5/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; slightly acid; gradual wavy boundary.

C2—50 to 60 inches; 34 percent light brownish gray (10YR 6/2), 33 percent yellowish brown (10YR 5/6), and 33 percent light olive brown (2.5Y 5/4) silty clay loam; massive; firm; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; neutral.

Depth to bedrock is more than 60 inches. Thickness of the mollic epipedon ranges from 24 to 55 inches. Reaction ranges from moderately alkaline to slightly acid throughout the profile.

The Ap horizon has hue of 10YR, value of 3, and chroma of 2 or 3. Texture is silt loam or silty clay loam.

The upper part of the Bw horizon has hue and chroma similar to those of the A horizon. The lower part of the horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 6. Texture is silty clay or clay.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 to 6. It has mottles and redoximorphic features in shades of brown and gray. In some pedons, the horizon has a mottled matrix without a dominant color. Texture is silty clay loam, silty clay, or clay.

Ellisville Series

The Ellisville series consists of very deep, well drained soils. These soils formed in loamy and silty alluvium on flood plains throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Ellisville silt loam, occasionally flooded; from Lynchburg, 1 mile south on Tennessee Highway 55, about 100 feet east into a field; USGS Lynchburg West Quadrangle; lat. 35 degrees 16 minutes 18 seconds N. and long. 86 degrees 23 minutes 03 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; common fine and medium roots; moderately acid; clear smooth boundary.

Bw1—10 to 24 inches; dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; strongly acid; clear smooth boundary.

Bw2—24 to 34 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; common fine roots; strongly acid; clear smooth boundary.

Bw3—34 to 51 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.

Bw4—51 to 60 inches; brown (10YR 4/4) silt loam; weak medium subangular blocky structure; very friable; very strongly acid.

Depth to bedrock is more than 60 inches. Reaction ranges from moderately acid to very strongly acid.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. Texture is silt loam.

The Bw horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4. Below a depth of 36 inches, it has none to common mottles in shades of brown and gray. The horizon is silt loam or silty clay loam.

Ennis Series

The Ennis series consists of very deep, well drained soils. These soils formed in gravelly alluvial sediments on narrow flood plains throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Ennis gravelly silt loam, occasionally flooded; Lincoln County, Tennessee; from Fayetteville, 3.0 miles west on U.S. Highway 64, about 15 miles southwest on Tennessee Highway 273, about 1.25 miles north on McBurg Dellrose Road, 0.25 mile northeast on Buford Hughey Road, 50 feet south of a gravel road, in a field; USGS Frankewing Quadrangle; lat. 35 degrees 07 minutes 55 seconds N. and long. 86 degrees 48 minutes 26 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) gravelly silt loam; moderate medium granular structure; very friable; many fine and medium roots; 15 percent angular, rounded, and subrounded fragments of chert; moderately acid; clear smooth boundary.

Bw1—9 to 20 inches; yellowish brown (10YR 5/4) gravelly loam; weak medium subangular blocky structure; friable; common fine and medium roots; 15 percent rounded and subrounded fragments of chert; strongly acid; gradual smooth boundary.

Bw2—20 to 38 inches; brown (10YR 5/3) gravelly silt loam; moderate medium subangular blocky structure; friable; few fine roots; 20 percent rounded and subrounded fragments of chert; strongly acid; gradual smooth boundary.

Bw3—38 to 55 inches; yellowish brown (10YR 5/4) gravelly silt loam; few fine distinct yellowish brown (10YR 5/8) and few fine faint pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable; 30 percent rounded and subrounded fragments of chert; strongly acid; gradual smooth boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) gravelly silt loam; massive; friable; common medium distinct yellowish brown (10YR 5/8) iron concentrations; common medium distinct light brownish gray (10YR 6/2) iron depletions; 35 percent rounded and subrounded fragments of chert; strongly acid.

Depth to bedrock is more than 60 inches. The content of rock fragments ranges from 15 to 35 percent in the A and Bw horizons and from 15 to 55 percent in the C horizon. Reaction ranges from moderately acid to very strongly acid throughout the profile.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture is gravelly silt loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has none to common mottles in shades of brown. Texture is gravelly silt loam or gravelly loam.

The C horizon has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. It has none or few redoximorphic features in shades of brown and gray. Texture of the fine-earth fraction is silt loam, loam, or silty clay loam.

Etowah Series

The Etowah series consists of very deep, well drained soils. These soils formed in old alluvium and colluvium on stream terraces in the central part of the county and along the Elk River terraces in the southern part of the county. Slopes range from 2 to 20 percent.

Typical pedon of Etowah silt loam, 5 to 12 percent slopes, eroded; from Lynchburg, 1.5 miles south on Tennessee Highway 55, about 2.5 miles southeast on Tennessee Highway 50, about 5.0 miles south on Lois Ridge Road, 3.0 miles south on Edde Bend Road, 100 feet east in a field; USGS Lois Quadrangle; lat. 35 degrees 08 minutes N. and long. 86 degrees 19 minutes 09 seconds W.

Ap—0 to 5 inches; brown (7.5YR 3/4) silt loam; moderate medium granular structure; very friable; many fine and medium roots; moderately acid; abrupt smooth boundary.

Bt1—5 to 28 inches; strong brown (7.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common medium distinct brown (7.5YR 4/4) clay films on faces of peds; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; very strongly acid; clear smooth boundary.

Bt2—28 to 54 inches; yellowish red (5YR 4/6) clay loam; moderate medium subangular blocky structure; friable; few fine roots; few medium distinct strong brown (7.5YR 4/6) clay films on faces of peds; few medium distinct black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; very strongly acid; clear smooth boundary.

Bt3—54 to 65 inches; yellowish red (5YR 4/6) clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; 10 percent rounded and subrounded gravel; very strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 15 percent throughout the profile. Reaction ranges from moderately acid to very strongly acid.

The Ap horizon has hue of 10YR or 7.5YR, value of 3, and chroma of 2 to 4. Texture is silt loam.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 6 to 8. It has few or common mottles in shades of yellow, red, and brown. Texture is silty clay loam or clay loam.

Guthrie Series

The Guthrie series consists of very deep, poorly drained soils that have a fragipan. These soils formed in a silty mantle over residuum of limestone on upland flats and in depressions in the eastern part of the county. Slopes range from 0 to 2 percent.

Typical pedon of Guthrie silt loam, ponded; from Lynchburg, 6.0 miles north on Tennessee Highway 55, about 3.0 miles southeast on Cumberland Springs Road, 300 feet west of a shooting range; USGS Lynchburg East Quadrangle; lat. 35 degrees 20 minutes 38 seconds N. and long. 86 degrees 16 minutes 08 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium and fine granular structure; very friable; common fine roots; strongly acid; abrupt smooth boundary.

Eg—3 to 9 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; very friable; common fine and few medium roots; many fine and very fine irregular pores; strongly acid; clear wavy boundary.

Bg—9 to 24 inches; light brownish gray (10YR 6/2) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; strongly acid; gradual wavy boundary.

Btxg—24 to 65 inches; gray (10YR 5/1) silt loam; strong very coarse prismatic structure parting to moderate medium and coarse subangular blocky; very firm; common fine discontinuous pores; common distinct gray (10YR 6/1) clay films on faces of prisms and in pore linings; common fine and medium light brownish gray (10YR 6/2) silt loam coatings on faces of prisms and as vertical seams; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; brittle in 60 percent of the mass; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 3 percent above the fragipan and is less than 10 percent in the fragipan. Depth to the fragipan ranges from 20 to 40 inches. Reaction ranges from extremely acid to strongly acid throughout the profile.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. Texture is silt loam.

The Eg horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. Texture is silt loam.

The Bg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 or less. It has redoximorphic features in shades of brown and yellow. Texture is silt loam or silty clay loam.

The Btxg horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 or less. It has few or common redoximorphic features in shades of red, brown, and yellow. In some pedons, the horizon has an evenly mottled pattern in shades of yellow, gray, and brown. Texture is silt loam or silty clay loam.

Hawthorne Series

The Hawthorne series consists of moderately deep, somewhat excessively drained, gravelly soils. These soils formed in residuum of interbedded siltstone and cherty limestone on narrow ridgetops and hillsides of the Highland Rim. Slopes range from 5 to 60 percent.

Typical pedon of Hawthorne gravelly silt loam in an area of Hawthorne-Sugargrove complex, 5 to 20 percent slopes; from Lynchburg, 3.0 miles north on Tennessee Highway 55, about 0.5 mile southeast on Pleasant Hill Road, 1.0 mile north on Price Hollow Road, 50 feet east of the road; USGS Lynchburg East Quadrangle; lat. 35 degrees 19 minutes 42 seconds N. and long. 86 degrees 20 minutes 12 seconds W.

Ap—0 to 10 inches; dark brown (10YR 4/3) gravelly silt loam; moderate medium granular structure; friable; many medium and fine roots; 30 percent angular fragments of chert; moderately acid; clear smooth boundary.

BE—10 to 14 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak medium subangular blocky structure; friable; few fine roots; 30 percent angular fragments of chert; strongly acid; clear smooth boundary.

Bw1—14 to 26 inches; dark yellowish brown (10YR 4/6) very gravelly silt loam; weak medium subangular blocky structure; friable; few fine roots; 40 percent angular fragments of chert and siltstone channers; moderately acid; clear smooth boundary.

Bw2—26 to 34 inches; strong brown (7.5YR 4/6) very gravelly silt loam; moderate medium subangular blocky structure; friable; 40 percent angular fragments of chert and siltstone channers; strongly acid; clear smooth boundary.

Cr—34 to 60 inches; alternating strata of hard fractured chert, horizontally bedded siltstone, and thin strata of silty clay loam.

Depth to soft bedrock ranges from 27 to 40 inches. The content of rock fragments ranges from 10 to 35 percent in the A horizon and from 35 to 60 percent in the Bw and C horizons. Reaction ranges from extremely acid to strongly acid throughout the profile.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. Texture of the fine-earth fraction is silt loam.

Thin transitional horizons occur in most pedons. They are similar in color and texture to the adjacent horizons.

The Bw horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. It has none to common mottles in shades of yellow, brown, and red. Texture of the fine-earth fraction is silt loam.

The C horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture of the fine-earth fraction is silt loam or silty clay loam.

The Cr horizon is a mixture of highly weathered siltstone and hard chert that is interlayered with thin strata of silty clay loam or clay.

Humphreys Series

The Humphreys series consists of very deep, well drained soils. These soils formed in colluvium and alluvium from cherty limestone on footslopes and terraces along the Elk River and throughout the county. Slopes range from 5 to 12 percent.

Typical pedon of Humphreys gravelly silt loam, 5 to 12 percent slopes; from Lynchburg, 9.0 miles west on Tennessee Highway 129, about 0.1 mile north on Bagley Hollow Road, 0.1 mile west on Steelman Loop Road, 100 feet south into a field; USGS Lynchburg West Quadrangle; lat. 35 degrees 12 minutes 00 seconds N. and long. 86 degrees 18 minutes 42 seconds W.

Ap—0 to 6 inches; dark brown (10YR 4/3) gravelly silt loam; moderate medium granular structure; very friable; many fine and medium roots; 20 percent angular, rounded, and subrounded gravel; moderately acid; gradual wavy boundary.

Bt1—6 to 18 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; 25 percent angular, rounded, and subrounded gravel; moderately acid; gradual smooth boundary.

Bt2—18 to 35 inches; brown (7.5YR 5/4) gravelly silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; 25 percent angular, rounded, and subrounded gravel; moderately acid; gradual smooth boundary.

BC—35 to 46 inches; yellowish brown (10YR 5/6) very gravelly clay loam; weak medium subangular blocky structure; friable; 38 percent angular, rounded, and subrounded gravel; strongly acid; gradual smooth boundary.

C—46 to 60 inches; dark yellowish brown (10YR 4/4) extremely gravelly clay loam; massive; loose; 75 percent angular, rounded, and subrounded gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 15 to 35 percent in the A and Bt horizons and from 35 to 80 percent in the BC and C horizons. Reaction ranges from strongly acid to neutral in each horizon.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Texture of the fine-earth fraction is silt loam.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 or 6. It has none to many mottles in shades of brown and yellow. In many pedons, it commonly has redoximorphic depletions below a depth of 40 inches. Texture of the fine-earth fraction is silt loam, silty clay loam, or clay loam.

The BC and C horizons have colors similar to those of the Bt horizon. They have common mottles and redoximorphic features in shades of brown, yellow, and gray. Texture of the fine-earth fraction is silty clay loam, clay loam, or silt loam.

Lindell Series

The Lindell series consists of very deep, moderately well drained soils. These soils formed in loamy alluvium on flood plains throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Lindell silt loam, occasionally flooded; Lincoln County, Tennessee; from Fayetteville, 10.0 miles west on U.S. Highway 64, about 1.5 miles southwest on Barnes Hollow Road, 600 feet north of the road; USGS Boonshill Quadrangle; lat. 35 degrees 11 minutes 40 seconds N. and long. 86 degrees 43 minutes 22 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; common fine and medium roots; common fine black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions and nodules throughout the matrix; slightly acid; clear smooth boundary.

Bw1—6 to 13 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common fine roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions and nodules throughout the matrix; slightly acid; gradual smooth boundary.

Bw2—13 to 20 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; common fine and medium faint light brownish gray (10YR 6/2) iron depletions; slightly acid; gradual smooth boundary.

Bw3—20 to 42 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; common medium faint dark yellowish brown (10YR 4/6) iron depletions; neutral; gradual smooth boundary.

C—42 to 65 inches; 60 percent yellowish brown (10YR 5/4, 5/8) and 40 percent light gray (10YR 7/2) silty clay loam; massive; friable; many medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; 15 percent rounded and subrounded gravel; neutral.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 20 percent in the A horizon, from 0 to 15 percent in the B horizon, and from 0 to 30 percent in the C horizon. Reaction ranges from moderately acid to neutral in each horizon.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is silt loam or loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has few or common redoximorphic features in shades of brown and gray. Texture is silt loam, loam, or silty clay loam.

The Bg horizon, if it occurs, has hue of 10YR, value of 4 to 6, and chroma of 2 or less. It has few to many redoximorphic features in shades of gray and brown. Texture is silt loam, loam, clay loam, or silty clay loam.

The C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4, or it has an evenly mottled pattern in shades of gray and brown. Texture is silt loam, loam, silty clay loam, or clay loam.

Mimosa Series

The Mimosa series consists of deep, well drained soils. These soils formed in clayey residuum from limestone on hillsides and footslopes throughout the county. Slopes range from 5 to 40 percent.

Typical pedon of Mimosa silt loam, 5 to 12 percent slopes, eroded; from Lynchburg, 0.75 mile south on Tennessee Highway 55, about 2.5 miles west on Tennessee Highway 129, about 0.8 mile north on Buckeye Road, 250 feet west of the road; USGS Lynchburg West Quadrangle; lat. 35 degrees 17 minutes 19 seconds N. and long. 86 degrees 25 minutes 23 seconds W.

Ap—0 to 5 inches; dark brown (10YR 3/3) silt loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; slightly acid; abrupt smooth boundary.

Bt1—5 to 21 inches; yellowish brown (10YR 5/8) silty clay; moderate medium subangular and angular blocky structure; firm; slightly sticky; slightly plastic; common fine roots; few fine distinct yellowish brown (10YR 5/6) clay films on faces of peds; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; strongly acid; clear smooth boundary.

Bt2—21 to 38 inches; yellowish brown (10YR 5/8) clay; common medium prominent yellowish red (5YR 5/8) and many medium distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular and angular blocky structure; very firm; moderately sticky; moderately plastic; few fine roots; common medium distinct yellowish brown (10YR 5/6) clay films on faces of peds; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; 5 percent angular and subangular limestone gravel; very strongly acid; gradual smooth boundary.

Bt3—38 to 47 inches; yellowish brown (10YR 5/8) clay; common fine prominent grayish brown (10YR 5/2) and yellowish red (5YR 5/8) and common fine distinct brownish yellow (10YR 6/6) mottles; weak medium and coarse subangular and angular blocky structure; very firm; moderately sticky; moderately plastic; few very fine roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; 5 percent angular and subangular chert gravel; very strongly acid; gradual smooth boundary.

BC—47 to 56 inches; light olive brown (2.5Y 5/4) clay; many coarse prominent light gray (10YR 7/2) and yellowish red (5YR 5/8) mottles; massive; very firm; very sticky; very plastic; many fine and medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; 5 percent angular and subangular chert gravel; moderately acid; abrupt smooth boundary.

R—56 inches; hard limestone bedrock.

Depth to bedrock ranges from 40 to 60 inches. The content of gravel ranges from 0 to 25 percent in the A horizon and is 5 percent or less in the Bt and BC horizons. Reaction ranges from moderately acid to very strongly acid throughout the profile.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 3 to 6. Where value is 3, the horizon is less than 7 inches thick. Texture is silt loam, silty clay loam, or silty clay.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It has reticulate mottles derived from parent material in shades of brown, yellow, gray, and red. Texture is silty clay or clay.

The BC horizon has hue of 10YR or 2.5Y, value of 5, and chroma of 4 or 6. It has reticulate mottles derived from parent material in shades of brown, red, and gray. Texture is clay.

Mountview Series

The Mountview series consists of very deep, well drained and moderately well drained soils. These soils formed in a silty mantle over residuum of limestone on uplands in the eastern part of the county. Slopes range from 0 to 12 percent.

Typical pedon of Mountview silt loam, 2 to 5 percent slopes; from Lynchburg, 6.8 miles north on Tennessee Highway 55, about 3.0 miles southeast on Cumberland Springs Road, 100 feet south of the road; USGS Lynchburg East Quadrangle; lat. 35 degrees 20 minutes 30 seconds N. and long. 86 degrees 16 minutes 48 seconds W.

Ap—0 to 8 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

BE—8 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine and few medium and coarse roots; strongly acid; clear smooth boundary.

Bt—15 to 30 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; few fine and few medium roots; few faint clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese conretions throughout the matrix; few fine distinct pale brown (10YR 6/3) iron depletions; very strongly acid; clear smooth boundary.

B/E—30 to 40 inches; about 70 percent yellowish brown (10YR 5/6) silt loam (Bt part) and about 30 percent pale brown (10YR 6/3) silt loam (E part); moderate medium subangular blocky structure in Bt part; weak fine subangular blocky structure in E part; friable; few fine and few medium roots; few faint clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; brittle in about 20 percent of the mass; very strongly acid; clear smooth boundary.

2Bt—40 to 80 inches; strong brown (7.5YR 5/6) silty clay loam; few medium prominent red (2.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; common prominent brown (7.5YR 5/4) clay films on faces of peds; few fine black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; 5 percent angular and subangular gravel; very strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 5 percent in the upper 30 inches of the profile and from about 5 to 35 percent below that depth. Reaction is very strongly acid or strongly acid throughout the profile.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture is silt loam.

The BE horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Texture is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. In many pedons, it has none to common redoximorphic features in shades of brown and gray. The horizon is silt loam or silty clay loam.

The Bt part of the B/E horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. It is silt loam or silty clay loam. The E part has hue of 10YR, value of 5 or 6, and chroma of 2 to 4. It is silt loam.

The 2Bt horizon has hue of 7.5YR, value of 4 or 5, and chroma of 6 or 8 or has hue of 5YR, value of 5, and chroma of 6. It has mottles and redoximorphic features in shades of brown, yellow, gray, and red. Texture is silty clay loam or silty clay.

Nesbitt Series

The Nesbitt series consists of very deep, moderately well drained soils. These soils formed in silty alluvium and the underlying residuum of limestone on stream terraces in the central part of the county. Slopes range from 2 to 5 percent.

Typical pedon of Nesbitt silt loam, 2 to 5 percent slopes; from Lynchburg, 0.5 mile south on Tennessee Highway 50, about 200 feet east of the road; USGS Lynchburg West Quadrangle; lat. 35 degrees 16 minutes 35 seconds N. and long. 86 degrees 23 minutes 05 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 3/4) silt loam; moderate medium granular structure; very friable; common fine and medium roots; few fine black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; 5 percent subangular gravel; slightly acid; clear smooth boundary.

Bt1—6 to 20 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; few fine roots; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; 5 percent subangular gravel; moderately acid; gradual smooth boundary.

Bt2—20 to 29 inches; yellowish brown (10YR 5/8) silty clay loam; moderate medium and coarse subangular blocky structure; friable; few medium distinct yellowish brown (10YR 5/6) clay films on faces of peds; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) manganese and iron concretions throughout the matrix; common medium distinct light yellowish brown (10YR 6/4) and few fine distinct light gray (10YR 7/2) iron depletions; 5 percent subangular gravel; brittle in 30 percent of the mass; moderately acid; gradual smooth boundary.

Bt3—29 to 45 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse subangular blocky structure; friable; common medium distinct yellowish brown (10YR 5/4) clay films on faces of peds; many fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium prominent strong brown (7.5YR 5/8) iron concentrations; common medium distinct light gray (10YR 7/2) iron depletions; 5 percent subangular gravel; brittle in 30 percent of the mass; moderately acid; gradual smooth boundary.

2Bt4—45 to 65 inches; yellowish brown (10YR 5/6) silty clay; weak medium subangular blocky structure; firm; common medium distinct yellowish brown (10YR 5/4) clay films on faces of peds; common medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium prominent strong brown (7.5YR 5/8) iron concentrations; common medium distinct light yellowish brown (10YR 6/4) and light gray (10YR 7/2) iron depletions; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 5 percent in the A and Bt horizons. Reaction is moderately acid or strongly acid throughout the profile.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. Texture is silt loam.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8. It has few to many redoximorphic features in shades of gray, brown, and red. Texture is silt loam or silty clay loam. Typically, the middle and lower parts of the Bt horizon are brittle in about 25 to 40 percent of the mass.

The 2Bt horizon has hue of 10YR, value of 4 or 5, and chroma of 4 or 6. It has few to many redoximorphic features in shades of gray and brown. Texture is silty clay.

Sugargrove Series

The Sugargrove series consists of moderately deep and deep, well drained soils. These soils formed in loamy residuum derived from siltstone and limestone on ridgetops and hillsides in the eastern part of the county. Slopes range from 5 to 12 percent.

Typical pedon of Sugargrove gravelly silt loam in an area of Hawthorne-Sugargrove complex, 5 to 20 percent slopes; from Lynchburg, 2.5 miles north on Tennessee Highway 55, about 1.5 miles northwest on Tennessee Highway 82, about 1.5 mile west on Wiseman Road, 75 feet south of the road; USGS Lynchburg West Quadrangle; lat. 35 degrees 20 minutes 43 seconds N. and long. 86 degrees 24 minutes 27 seconds W.

A—0 to 5 inches; brown (10YR 5/4) gravelly silt loam; weak fine granular structure; very friable; many fine roots; 15 percent angular fragments; neutral; clear smooth boundary.

E—5 to 16 inches; light yellowish brown (10YR 6/4) gravelly silt loam; weak medium granular structure; very friable; many fine roots; 20 percent angular fragments; strongly acid; clear smooth boundary.

Bt1—16 to 30 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds and on fragments; 20 percent angular rock fragments; very strongly acid; gradual smooth boundary.

Bt2—30 to 44 inches; strong brown (7.5YR 5/6) channery silty clay loam; few fine distinct light yellowish brown (10YR 6/4) and yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; common distinct brown (7.5YR 5/4) clay films on faces of peds and on rock fragments; 33 percent channers of siltstone; very strongly acid; abrupt wavy boundary.

Cr—44 to 60 inches; horizontally bedded, highly fractured siltstone; thin strata of silty clay loam between and coating rock fragments.

Depth to hard bedrock is more than 60 inches. Depth to a paralithic contact ranges from 20 to 60 inches. The content of rock fragments ranges from 10 to 35 percent in the A and Bt horizons. Reaction is strongly acid or very strongly acid throughout the profile.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Texture is gravelly silt loam.

The E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Texture is gravelly silt loam.

The upper part of the Bt horizon has hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 or 6. The lower part has hue of 10YR, 7.5YR, or 5YR, value of 4 to 6, and chroma of 4 or 6. This part has none to common mottles in shades of red or brown. The upper part of the horizon is gravelly silt loam or gravelly silty clay loam. The lower part is channery silty clay loam or very channery silty clay loam.

The Cr horizon consists of highly fractured, horizontally bedded siltstone and chert that are interlayered with thin strata of silty clay loam.

Taft Series

The Taft series consists of very deep, somewhat poorly drained soils. These soils formed in loess or alluvium and the underlying residuum of limestone on upland flats and in depressions in the eastern part of the county. Slopes range from 0 to 2 percent.

Typical pedon of Taft silt loam; from Lynchburg, 6.8 miles north on Tennessee Highway 55, about 3.5 miles southeast on Cumberland Springs Road, 100 feet north of the road; USGS Lynchburg East Quadrangle; lat. 35 degrees 20 minutes 28 seconds N. and long. 86 degrees 16 minutes 06 seconds W.

A—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; many fine and few medium roots; very strongly acid; abrupt smooth boundary.

E—2 to 6 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; very friable; common fine, few medium, and few coarse roots; common fine irregular pores; few fine and medium prominent strong brown (7.5YR 4/6) iron concentrations in root channels and pores; very strongly acid; clear wavy boundary.

Bw1—6 to 14 inches; light yellowish brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; very friable; common fine and few medium roots; common fine irregular pores; common medium distinct light brownish gray (2.5Y 6/2) iron depletions; common medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/8) iron concentrations; strongly acid; clear wavy boundary.

Bw2—14 to 26 inches; light yellowish brown (2.5Y 5/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common fine irregular pores; common coarse distinct light brownish gray (2.5Y 6/2) iron depletions; common medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/8) iron concentrations; strongly acid; clear wavy boundary.

Bx/E—26 to 33 inches; 65 percent light olive brown (2.5Y 5/4) silt loam (Bx part) and 35 percent light brownish gray (10YR 6/2) silt loam (E part); very coarse prismatic structure parting to moderate and coarse subangular blocky in Bt part; weak medium subangular blocky structure in E part; very firm (Bx part) and very friable (E part); common medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; brittle in 50 percent of the mass; very strongly acid; clear wavy boundary.

Btx—33 to 60 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct gray (2.5Y 6/1) clay films on faces of prisms and in pores; common coarse prominent gray (10YR 6/1) and common medium faint light brownish gray (2.5Y 6/2) iron depletions; common medium distinct yellowish brown (10YR 5/6) iron accumulations; 5 percent angular and subangular gravel; very strongly acid.

Depth to bedrock is more than 60 inches. The content of angular and subangular gravel ranges from 0 to 5 percent in the horizons above the fragipan and from 0 to 10 percent below the fragipan. Depth to the fragipan ranges from 18 to 30 inches. Reaction is very strongly acid or strongly acid throughout the profile.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3. Texture is silt loam.

The E horizon and the E part of the Bx/E horizon have hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or 3. Texture is silt loam.

The Bw horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 or 4. It has redoximorphic features in shades of brown, yellow, and gray. Texture is silt loam or silty clay loam.

The Btx horizon and the Bx part of the Bx/E horizon have hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 or 4. They have mottles in shades of gray and brown. Texture is silt loam or silty clay loam.

Trace Series

The Trace series consists of very deep, well drained soils. These soils formed in silty alluvium underlain by gravelly alluvium on stream terraces throughout the county. Slopes range from 2 to 5 percent.

Typical pedon of Trace silt loam, 2 to 5 percent slopes, rarely flooded; from Lynchburg, 1.5 miles south on Tennessee Highway 55, about 2.5 miles southeast on Tennessee Highway 50, about 5.5 miles south on Lois Ridge Road, 2 miles south on Edde Bend Road, 3 miles south on Sullenger Bend Road, 500 feet west of the road; USGS Lois Quadrangle; lat. 35 degrees 07 minutes 51 seconds N. and long. 86 degrees 20 minutes 30 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; very friable; many very fine and fine roots; 1 percent rounded gravel; moderately acid; abrupt smooth boundary.

BA—6 to 10 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; 2 percent rounded gravel; moderately acid; clear wavy boundary.

Bt1—10 to 27 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; common fine irregular pores; few faint clay films on faces of peds; 2 percent rounded gravel; moderately acid; clear wavy boundary.

Bt2—27 to 36 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common fine irregular pores; few faint clay films on faces of peds; 2 percent rounded gravel; moderately acid; clear wavy boundary.

2BC—36 to 39 inches; dark yellowish brown (10YR 4/4) very gravelly loam; weak medium subangular blocky structure; friable; common fine roots; 45 percent rounded gravel; strongly acid; clear wavy boundary.

2C—39 to 65 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam; single grain; loose; few fine roots; 65 percent rounded gravel; strongly acid.

Depth to bedrock is more than 60 inches. Depth to gravelly layers averages about 40 inches but can range from 30 to 60 inches. The content of gravel ranges from 0 to 8 percent in the Ap, BA, and Bt horizons, from 15 to 60 percent in the 2BC horizon, and from 60 to 90 percent in the 2C horizon. Reaction is moderately acid or strongly acid throughout the profile.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 or 4. Texture is silt loam.

Thin transitional horizons occur in some pedons. They are similar in color and texture to the adjacent horizons.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. Texture is silt loam or silty clay loam.

The 2BC horizon, if it occurs, has colors similar to those of the Bt horizon. Texture of the fine-earth fraction is silt loam, loam, or sandy loam.

The 2C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. Texture of the fine-earth fraction is loam or sandy loam.

Tupelo Series

The Tupelo series consists of very deep, somewhat poorly drained soils. These soils formed in alluvium and the underlying clayey residuum on low stream terraces throughout the county. Slopes range from 0 to 2 percent.

Typical pedon of Tupelo silt loam, occasionally flooded; from Lynchburg, 0.5 mile south on Tennessee Highway 55, about 3.5 miles west on Booneville Road, 0.25 mile south on Duck Branch Road, 50 feet west of the road; USGS Lynchburg West Quadrangle; lat. 35 degrees 16 minutes 31 seconds N. and long. 86 degrees 26 minutes 12 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many fine and medium roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; moderately acid; clear smooth boundary.

BA—8 to 16 inches; brownish yellow (10YR 6/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; few fine distinct yellowish brown (10YR 5/8) iron accumulations; moderately acid; clear smooth boundary.

Bt1—16 to 24 inches; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; many fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium prominent light gray (2.5Y 7/2) iron depletions; common fine distinct light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/8) iron concentrations; 5 percent angular and subangular gravel; moderately acid; gradual smooth boundary.

Bt2—24 to 32 inches; light olive brown (2.5Y 5/6) clay; moderate medium and coarse subangular blocky structure; firm; slightly sticky; slightly plastic; common distinct light olive brown (2.5Y 5/4) clay films on faces of peds; many fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium prominent light gray (10YR 7/2) iron depletions; common medium distinct yellowish brown (10YR 5/4) and brownish yellow (10YR 6/8) iron concentrations; 5 percent angular and subangular gravel; strongly acid; clear smooth boundary.

Btg—32 to 51 inches; light brownish gray (10YR 6/2) clay; weak medium and coarse subangular blocky structure; firm; moderately sticky; moderately plastic; common distinct gray (10YR 6/1) clay films on faces of peds; many fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium distinct yellowish brown (10YR 5/8) iron concentrations; 5 percent angular and subangular gravel; strongly acid; gradual smooth boundary.

Cg—51 to 60 inches; gray (5Y 6/1) clay; massive; very firm; moderately sticky; moderately plastic; common fine and medium black (10YR 2/1) and dark brown (10YR 3/3) iron and manganese concretions throughout the matrix; common medium prominent yellowish brown (10YR 5/4) iron concentrations; common medium distinct light brownish gray (10YR 6/2) clay depletions; 5 percent angular and subangular gravel; strongly acid.

Depth to bedrock is more than 60 inches. The content of gravel ranges from 0 to 5 percent throughout the profile. Reaction is moderately acid or strongly acid.

The Ap horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3. Texture is silt loam.

Thin transitional horizons occur in some pedons. They are similar in color and texture to the adjacent horizons.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. It has common or many redoximorphic features in shades of gray, brown, and yellow. Texture is silty clay loam, silty clay, or clay.

The Btg horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 5 to 7, and has chroma of 2 or less. Texture is clay or silty clay.

The Cg horizon has hue of 10YR to 5Y or is neutral in hue, has value of 5 to 7, and has chroma of 2 or less. It has few to many redoximorphic features in shades of yellow, brown, and olive. Texture is clay.

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(1) American Association of State Highway and Transportation Officials (AASHTO). 1998. Standard specifications for transportation materials and methods of sampling and testing. 19th ed., 2 vol.

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Glossary

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.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

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.

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 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 2
Low	2 to 4
Moderate	4 to 6
High	more than 6

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.

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.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

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.

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.

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. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

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.

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.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

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. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

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.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

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.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

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.

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.

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.

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.

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.

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.

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. Synonym: scarp.

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.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry 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*.

Fine textured soil. Sandy clay, silty clay, or clay.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. 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 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.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

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.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. 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.

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 natural elevation 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; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

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.

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

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

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. Fine-grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

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. An area 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.

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).

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.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

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

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.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

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.

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:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 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

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

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.

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.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in 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. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

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 ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging 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.

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.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

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 formed by the hardening of a clay deposit.

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 position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

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. Sedimentary rock made up of dominantly silt-sized particles.

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.

Sinkhole. A depression in the landscape where limestone has been dissolved.

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. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

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. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 3 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 60 percent
Very steep	40 percent and higher

Classes for complex slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 3 percent
Undulating	2 to 5 percent
Rolling	5 to 12 percent
Hilly	12 to 20 percent
Steep	20 to 60 percent
Very steep	40 percent and higher

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 over periods 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.

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.

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).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

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."

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Terrace. 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 (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

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."

Toeslope. The position that forms 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.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the 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.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1961-90 at Fayetteville, Tennessee)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	46.5	24.5	35.5	70	-9	16	4.74	2.45	6.75	8	2.7
February-	51.1	27.8	39.4	75	3	30	4.37	2.51	6.03	7	1.4
March----	61.0	36.5	48.8	82	13	113	6.18	3.63	8.46	8	0.3
April----	71.0	44.0	57.5	87	23	255	4.67	2.77	6.38	7	0.0
May------	78.6	52.7	65.7	91	32	473	5.04	2.72	7.08	7	0.0
June-----	86.2	60.4	73.3	97	42	686	3.52	1.75	5.05	5	0.0
July-----	88.9	64.7	76.8	99	50	809	4.55	3.03	5.94	7	0.0
August---	88.6	63.4	76.0	99	49	793	3.15	1.78	4.37	5	0.0
September	82.8	57.3	70.0	96	36	594	3.78	1.75	5.52	5	0.0
October--	72.5	43.9	58.2	87	23	269	3.56	1.86	5.28	5	0.0
November-	61.5	36.3	48.9	81	13	102	4.81	3.05	6.41	7	0.3
December-	50.8	28.7	39.8	73	3	34	5.44	2.78	7.75	7	0.8
Yearly:											
Average-	69.9	45.0	57.5	---	---	---	---	---	---	---	---
Extreme-	103	-26	---	100	-8	---	---	---	---	---	---
Total---	---	---	---	---	---	4,175	53.82	45.38	61.45	78	5.5

* 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 1961-90 at Fayetteville, Tennessee)

Probability	Temperature: 24 °F or lower	Temperature: 28 °F or lower	Temperature: 32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 9	Apr. 23	May 2
2 years in 10 later than--	Apr. 5	Apr. 18	Apr. 28
5 years in 10 later than--	Mar. 28	Apr. 8	Apr. 20
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 25	Oct. 8	Oct. 2
2 years in 10 earlier than--	Oct. 30	Oct. 14	Oct. 5
5 years in 10 earlier than--	Nov. 10	Oct. 25	Oct. 12

Table 3.—Growing Season

(Recorded in the period 1961-90 at Fayetteville, Tennessee)

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	209	180	159
8 years in 10	215	187	165
5 years in 10	227	199	176
2 years in 10	238	212	188
1 year in 10	244	218	194

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
Ag	Agee silty clay loam, rarely flooded	117	0.1
AmB	Armour silt loam, 2 to 5 percent slopes	926	1.1
Ar	Arrington silt loam, frequently flooded	198	0.2
BaC	Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes	1,932	2.3
BaE	Barfield-Ashwood-Rock outcrop complex, 20 to 40 percent slopes	8,107	9.7
DeD	Dellrose gravelly silt loam, 12 to 20 percent slopes	1,946	2.3
DeE	Dellrose gravelly silt loam, 20 to 40 percent slopes	13,216	15.8
DkA	Dickson silt loam, 0 to 2 percent slopes	986	1.2
DkB	Dickson silt loam, 2 to 5 percent slopes	2,600	3.1
Eg	Egam silt loam, occasionally flooded	474	0.6
El	Ellisville silt loam, occasionally flooded	1,278	1.5
En	Ennis gravelly silt loam, occasionally flooded	2,140	2.6
EtB	Etowah silt loam, 2 to 5 percent slopes	145	0.2
EtC2	Etowah silt loam, 5 to 12 percent slopes, eroded	585	0.7
EtD2	Etowah silt loam, 12 to 20 percent slopes, eroded	185	0.2
Gu	Guthrie silt loam, ponded	774	0.9
HbF	Hawthorne-Bodine complex, 20 to 60 percent slopes	16,406	19.6
HsC	Hawthorne-Sugargrove complex, 5 to 20 percent slopes	9,563	11.4
HuC	Humphreys gravelly silt loam, 5 to 12 percent slopes	678	0.8
Ln	Lindell silt loam, occasionally flooded	363	0.4
MmC2	Mimosa silt loam, 5 to 12 percent slopes, eroded	1,712	2.0
MmD2	Mimosa silt loam, 12 to 20 percent slopes, eroded	1,462	1.7
MmE2	Mimosa silt loam, 20 to 40 percent slopes, eroded	1,034	1.2
MnD	Mimosa-Rock outcrop complex, 12 to 20 percent slopes	2,665	3.2
MnE	Mimosa-Rock outcrop complex, 20 to 40 percent slopes	2,721	3.3
MoA	Mountview silt loam, 0 to 2 percent slopes	244	0.3
MoB	Mountview silt loam, 2 to 5 percent slopes	4,390	5.2
MoC2	Mountview silt loam, 5 to 12 percent slopes, eroded	1,369	1.6
NeB	Nesbitt silt loam, 2 to 5 percent slopes	166	0.2
Pt	Pits, gravel	103	0.1
Ta	Taft silt loam	1,464	1.7
TrB	Trace silt loam, 2 to 5 percent slopes, rarely flooded	1,363	1.6
Tu	Tupelo silt loam, occasionally flooded	261	0.3
Ur	Urban land	227	0.3
W	Water	1,900	2.3
	Total	83,700	100.0

* Less than 0.1 percent.

Table 5.—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	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Tobacco
		Tons	Bu	Bu	AUM*	Lbs
Ag: Agee	4w	---	---	---	7.00	---
AmB: Armour	2e	4.00	140.00	45.00	8.00	2,900.00
Ar: Arrington	3w	---	---	40.00	7.50	---
BaC: Barfield-Ashwood-Rock outcrop	6s	---	---	---	3.50	---
BaE: Barfield-Ashwood-Rock outcrop	7s	---	---	---	---	---
DeD: Dellrose	4e	---	80.00	25.00	5.50	1,400.00
DeE: Dellrose	6e	---	---	---	4.50	---
DkA: Dickson	2w	---	100.00	35.00	7.00	2,200.00
DkB: Dickson	2e	---	95.00	35.00	6.50	2,000.00
Eg: Egam	2w	---	110.00	40.00	8.00	---
El: Ellisville	2w	3.50	140.00	50.00	9.00	3,000.00
En: Ennis	2w	---	85.00	30.00	6.50	2,000.00
EtB: Etowah	2e	4.00	130.00	40.00	8.00	2,800.00
EtC2: Etowah	3e	3.50	110.00	35.00	7.50	2,500.00
EtD2: Etowah	4e	2.50	90.00	30.00	7.00	2,100.00
Gu: Guthrie	5w	---	---	---	3.00	---
HbF: Hawthorne-Bodine	7s	---	---	---	---	---

See footnote at end of table.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Soybeans	Tall fescue-ladino	Tobacco
		Tons	Bu	Bu	AUM*	Lbs
HsC:						
Hawthorne-Sugargrove----	4s	---	---	---	4.00	---
HuC:						
Humphreys---------------	3e	2.80	100.00	32.00	6.50	2,400.00
Ln:						
Lindell-----------------	2w	---	110.00	40.00	8.00	2,000.00
MmC2:						
Mimosa------------------	4e	---	---	---	4.50	---
MmD2:						
Mimosa------------------	6e	---	---	---	4.00	---
MmE2:						
Mimosa------------------	7e	---	---	---	---	---
MnD:						
Mimosa-Rock outcrop-----	6s	---	---	---	4.00	---
MnE:						
Mimosa-Rock outcrop-----	7s	---	---	---	---	---
MoA:						
Mountview---------------	1	---	125.00	40.00	8.00	2,400.00
MoB:						
Mountview---------------	2e	---	115.00	38.00	7.00	2,300.00
MoC2:						
Mountview---------------	3e	---	95.00	30.00	6.50	2,100.00
NeB:						
Nesbitt-----------------	2e	---	100.00	40.00	7.50	2,200.00
Pt.						
Pits, gravel						
Ta:						
Taft--------------------	3w	---	---	25.00	6.00	---
TrB:						
Trace-------------------	2e	4.00	125.00	40.00	8.50	2,700.00
Tu:						
Tupelo------------------	3w	---	---	25.00	6.00	---
Ur.						
Urban land						
W.						
Water						

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one sheep, or five goats) for 30 days.

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Soil name
AmB	Armour silt loam, 2 to 5 percent slopes
DkA	Dickson silt loam, 0 to 2 percent slopes
DkB	Dickson silt loam, 2 to 5 percent slopes
Eg	Egam silt loam, occasionally flooded
El	Ellisville silt loam, occasionally flooded
En	Ennis gravelly silt loam, occasionally flooded
EtB	Etowah silt loam, 2 to 5 percent slopes
Ln	Lindell silt loam, occasionally flooded
MoA	Mountview silt loam, 0 to 2 percent slopes
MoB	Mountview silt loam, 2 to 5 percent slopes
NeB	Nesbitt silt loam, 2 to 5 percent slopes
TrB	Trace silt loam, 2 to 5 percent slopes, rarely flooded

Table 7.—Forest Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Ag:				
Agee	sweetgum	95	93	sweetgum, American sycamore, water oak, cherrybark oak
	American sycamore	90	85	
	water oak	90	62	
	cherrybark oak	90	62	
AmB:				
Armour	yellow-poplar	100	107	yellow-poplar, loblolly pine, black walnut, white oak, southern red oak
	loblolly pine	90	144	
	black walnut	85	75	
	white oak	80	62	
	southern red oak	80	62	
Ar:				
Arrington	yellow-poplar	100	107	yellow-poplar, black walnut, sweetgum, white oak, cherrybark oak
	black walnut	85	75	
	sweetgum	85	70	
	white oak	80	62	
	cherrybark oak	80	62	
BaC, BaE:				
Barfield	Virginia pine	55	43	Virginia pine, eastern redcedar
	eastern redcedar	40	41	
Ashwood	Virginia pine	55	43	Virginia pine, eastern redcedar
	eastern redcedar	40	41	
Rock outcrop.				
DeD, DeE:				
Dellrose	yellow-poplar	100	100	yellow-poplar, loblolly pine, southern red oak, black walnut
	loblolly pine	80	114	
	southern red oak	75	57	
	black walnut	75	75	
DkA, DkB:				
Dickson	yellow-poplar	90	90	yellow-poplar, southern red oak, cherrybark oak, white oak
	southern red oak	75	57	
	cherrybark oak	75	57	
	white oak	70	57	
Eg:				
Egam	sweetgum	90	70	sweetgum, yellow-poplar, swamp white oak, cherrybark oak
	yellow-poplar	95	98	
	swamp white oak	85	57	
	cherrybark oak	85	57	
El:				
Ellisville	yellow-poplar	100	107	yellow-poplar, black walnut, sweetgum, white oak, cherrybark oak
	black walnut	85	75	
	sweetgum	85	70	
	white oak	80	62	
	cherrybark oak	80	62	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
En:				
Ennis	yellow-poplar	100	107	yellow-poplar, sweetgum, American sycamore, cherrybark oak, white oak
	sweetgum	85	85	
	American sycamore	85	80	
	cherrybark oak	80	62	
	white oak	70	57	
EtB, EtC2, EtD2:				
Etowah	cherrybark oak	80	62	cherrybark oak, loblolly pine, southern red oak, yellow-poplar
	loblolly pine	80	129	
	southern red oak	80	57	
	yellow-poplar	90	86	
Gu:				
Guthrie	sweetgum	90	98	sweetgum, swamp white oak, green ash, American sycamore
	swamp white oak	80	43	
	green ash	80	43	
	American sycamore	76	43	
HbF:				
Hawthorne	Virginia pine	60	75	Virginia pine, chestnut oak, eastern redcedar
	chestnut oak	60	43	
	eastern redcedar	40	35	
Bodine	Virginia pine	60	75	Virginia pine, chestnut oak, eastern redcedar
	chestnut oak	60	43	
	eastern redcedar	40	35	
HsC:				
Hawthorne	Virginia pine	60	75	Virginia pine, chestnut oak, eastern redcedar
	chestnut oak	60	43	
	eastern redcedar	40	35	
Sugargrove	Virginia pine	60	75	Virginia pine, chestnut oak, eastern redcedar
	chestnut oak	60	43	
	eastern redcedar	40	35	
HuC:				
Humphreys	yellow-poplar	100	107	yellow-poplar, sweetgum, American sycamore, black walnut, white oak
	sweetgum	75	86	
	American sycamore	75	81	
	black walnut	85	75	
	white ash	80	75	
Ln:				
Lindell	yellow-poplar	95	98	yellow-poplar, sweetgum, white oak, cherrybark oak, black walnut
	sweetgum	85	70	
	white oak	85	62	
	cherrybark oak	80	62	
	black walnut	85	55	
MmC2, MmD2, MmE2:				
Mimosa	loblolly pine	80	114	loblolly pine, chestnut oak, eastern redcedar
	chestnut oak	70	57	
	eastern redcedar	50	45	

Table 7.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MnD, MnE:				
Mimosa	loblolly pine	80	114	loblolly pine, chestnut oak, eastern redcedar
	chestnut oak	70	57	
	eastern redcedar	50	45	
Rock outcrop.				
MoA, MoB, MoC2:				
Mountview	yellow-poplar	90	86	yellow-poplar, loblolly pine, southern red oak
	loblolly pine	75	100	
	southern red oak	70	57	
NeB:				
Nesbitt	yellow-poplar	95	98	yellow-poplar, sweetgum, white oak, cherrybark oak
	sweetgum	85	70	
	white oak	85	62	
	cherrybark oak	80	62	
Pt:				
Pits, gravel	eastern redcedar	45	55	eastern redcedar, Virginia pine
	Virginia pine	35	40	
Ta:				
Taft	sweetgum	80	86	sweetgum, yellow-poplar, green ash, white oak
	yellow-poplar	90	86	
	green ash	70	62	
	white oak	60	43	
TrB:				
Trace	yellow-poplar	100	95	yellow-poplar, sweetgum, loblolly pine, black walnut, cherrybark oak
	sweetgum	85	107	
	loblolly pine	90	144	
	black walnut	85	63	
	cherrybark oak	80	62	
Tu:				
Tupelo	sweetgum	95	98	sweetgum, yellow-poplar, swamp white oak, American sycamore
	yellow-poplar	90	93	
	swamp white oak	85	63	
	American sycamore	80	75	
Ur. Urban land				
W. Water				

Table 8.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Ag:							
Agee	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
AmB:							
Armour	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Ar:							
Arrington	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
BaC:							
Barfield	37	Severe		Moderately suited		Severe	
		Restrictive layer	1.00	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
Ashwood	31	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Strength	1.00
		Slope	0.50	Strength	0.50		
		Landslides	0.50	Landslides	0.50		
		Strength	0.50				
Ashwood	31	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Restrictive layer	0.50	Strength	0.50		
		Landslides	0.50	Landslides	0.50		
		Stickiness/slope	0.50				
		Strength	0.50				
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Severe		Poorly suited		Severe	
		Landslides	1.00	Landslides	1.00	Strength	1.00
		Slope	0.50	Slope	1.00		
		Strength	0.50	Strength	0.50		
DeE:							
Dellrose	85	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	0.50	Landslides	1.00		
		Strength	0.50	Strength	0.50		

Table 8.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
DkA, DkB:							
Dickson	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Eg:							
Egam	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
El:							
Ellisville	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
En:							
Ennis	85	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
EtB:							
Etowah	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
EtC2:							
Etowah	90	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
EtD2:							
Etowah	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
Gu:							
Guthrie	85	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Wetness	1.00
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
HbF:							
Hawthorne	55	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
		Strength	0.50	Strength	0.50		
Bodine	45	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Strength	1.00
		Slope	1.00	Landslides	1.00		
				Strength	0.50		
HsC:							
Hawthorne	45	Moderate		Poorly suited		Severe	
		Strength	0.50	Slope	1.00	Strength	1.00
		Landslides	0.10	Strength	0.50		
				Landslides	0.10		
Sugargrove	35	Moderate		Poorly suited		Severe	
		Strength	0.50	Slope	1.00	Strength	1.00
		Landslides	0.10	Strength	0.50		
				Landslides	0.10		

Table 8.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
HuC:							
Humphreys	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
Ln:							
Lindell	85	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
MmC2:							
Mimosa	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
MmD2, MmE2:							
Mimosa	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Stickiness/slope	0.50	Strength	0.50		
		Restrictive layer	0.50				
		Strength	0.50				
MnD, MnE:							
Mimosa	50	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Strength	1.00
		Stickiness/slope	0.50	Strength	0.50		
		Restrictive layer	0.50				
		Strength	0.50				
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
MoC2:							
Mountview	90	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Slope	0.50		
NeB:							
Nesbitt	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
TrB:							
Trace	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00

Table 8.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Tu:							
Tupelo	90	Moderate		Moderately suited		Severe	
		Flooding	0.50	Flooding	0.50	Strength	1.00
		Strength	0.50	Strength	0.50		
				Wetness	0.50		
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 8.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ag:							
Agee----------------	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Wetness	1.00
						Strength	0.50
AmB:							
Armour--------------	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
Ar:							
Arrington-----------	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
BaC:							
Barfield------------	37	Slight		Severe		Moderately suited	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
Ashwood-------------	31	Slight		Severe		Moderately suited	
		Slope/erodibility	0.20	Slope/erodibility	1.00	Slope	0.50
						Strength	0.50
Rock outcrop--------	25	Not rated		Not rated		Not rated	
BaE:							
Barfield------------	37	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.59	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
Ashwood-------------	31	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.59	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.50
Rock outcrop--------	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.31	Slope/erodibility	1.00	Landslides	1.00
						Slope	1.00
						Strength	0.50
DeE:							
Dellrose------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.59	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
DkA:							
Dickson-------------	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50

Table 8.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
DkB:							
Dickson	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
Eg:							
Egam	90	Slight		Slight		Poorly suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
El:							
Ellisville	90	Slight		Slight		Poorly suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	1.00
						Strength	0.50
En:							
Ennis	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	0.50
						Strength	0.50
EtB:							
Etowah	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
EtC2:							
Etowah	90	Slight		Severe		Moderately suited	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
EtD2:							
Etowah	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.39	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
Gu:							
Guthrie	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Ponding	1.00
						Wetness	1.00
						Strength	0.50
HbF:							
Hawthorne	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.78	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
Bodine	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.78	Slope/erodibility	1.00	Slope	1.00
						Landslides	1.00
						Strength	0.50
HsC:							
Hawthorne	45	Moderate		Moderate		Poorly suited	
		Slope/erodibility	0.25	Slope/erodibility	0.81	Slope	1.00
						Strength	0.50
						Landslides	0.10
Sugargrove	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.25	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
						Landslides	0.10

Table 8.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
HuC:							
Humphreys	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.16	Slope/erodibility	0.89	Strength	0.50
						Slope	0.50
Ln:							
Lindell	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	0.50
						Strength	0.50
						Wetness	0.50
MmC2:							
Mimosa	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.21	Slope/erodibility	0.94	Strength	0.50
						Slope	0.50
MmD2:							
Mimosa	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.39	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
MmE2:							
Mimosa	90	Severe		Severe		Poorly suited	
		Slope/erodibility	0.73	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
MnD:							
Mimosa	50	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.39	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Severe		Severe		Poorly suited	
		Slope/erodibility	0.73	Slope/erodibility	1.00	Slope	1.00
						Strength	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA:							
Mountview	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
MoB:							
Mountview	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
MoC2:							
Mountview	90	Slight		Severe		Moderately suited	
		Slope/erodibility	0.22	Slope/erodibility	1.00	Strength	0.50
						Slope	0.50
NeB:							
Nesbitt	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	

Table 8.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
Ta:							
Taft	90	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
						Wetness	0.50
TrB:							
Trace	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.10	Slope/erodibility	0.44	Strength	0.50
Tu:							
Tupelo	90	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Flooding	0.50
						Strength	0.50
						Wetness	0.50
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 8.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Ag:							
Agee	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
AmB:							
Armour	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
Ar:							
Arrington	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
BaC:							
Barfield	37	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Slope	0.50	Strength	0.50
				Stickiness	0.50		
				Rock fragments	0.50		
Ashwood	31	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Slope	0.50	Strength	0.50
				Stickiness	0.50		
				Rock fragments	0.50		
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Moderately suited		Unsuited		Moderately suited	
		Stickiness	0.50	Slope	1.00	Slope	0.50
				Stickiness	0.50	Strength	0.50
				Rock fragments	0.50		
Ashwood	31	Moderately suited		Unsuited		Moderately suited	
		Stickiness	0.50	Slope	1.00	Slope	0.50
				Stickiness	0.50	Strength	0.50
				Rock fragments	0.50		
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
				Rock fragments	0.50		
DeE:							
Dellrose	85	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50	Strength	0.50
DkA, DkB:							
Dickson	85	Well suited		Well suited		Moderately suited	
						Strength	0.50

Table 8.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Eg:							
Egam	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
El:							
Ellisville	90	Well suited		Well suited		Moderately suited	
						Strength	0.50
En:							
Ennis	85	Well suited		Moderately suited		Moderately suited	
				Rock fragments	0.50	Strength	0.50
EtB:							
Etowah	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
EtC2:							
Etowah	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
EtD2:							
Etowah	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Strength	0.50
Gu:							
Guthrie	85	Unsuited		Poorly suited		Poorly suited	
		Wetness	1.00	Wetness	0.75	Wetness	1.00
						Strength	0.50
HbF:							
Hawthorne	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
Bodine	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Strength	0.50
HsC:							
Hawthorne	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Sugargrove	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
HuC:							
Humphreys	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
				Rock fragments	0.50		
Ln:							
Lindell	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
MmC2:							
Mimosa	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
				Slope	0.50		

Table 8.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
MmD2:							
Mimosa	90	Moderately suited		Poorly suited		Moderately suited	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50		
MmE2:							
Mimosa	90	Moderately suited		Unsuited		Moderately suited	
		Stickiness	0.50	Slope	1.00	Slope	0.50
				Stickiness	0.50	Strength	0.50
MnD:							
Mimosa	50	Moderately suited		Poorly suited		Moderately suited	
		Stickiness	0.50	Slope	0.75	Strength	0.50
				Stickiness	0.50		
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Moderately suited		Unsuited		Moderately suited	
		Stickiness	0.50	Slope	1.00	Slope	0.50
				Stickiness	0.50	Strength	0.50
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
MoC2:							
Mountview	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Strength	0.50
NeB:							
Nesbitt	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Well suited		Well suited		Moderately suited	
						Strength	0.50
TrB:							
Trace	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
Tu:							
Tupelo	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 8.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
Ag:					
Agee	85	Poorly suited		Well suited	
		Stickiness	0.50		
AmB:					
Armour	85	Well suited		Well suited	
Ar:					
Arrington	85	Well suited		Well suited	
BaC:					
Barfield	37	Well suited		Unsuited	
				Restrictive layer	1.00
Ashwood	31	Poorly suited		Poorly suited	
		Stickiness	0.50	Restrictive layer	0.50
Rock outcrop	25	Not rated		Not rated	
BaE:					
Barfield	37	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
Ashwood	31	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness	0.50	Restrictive layer	0.50
Rock outcrop	25	Not rated		Not rated	
DeD, DeE:					
Dellrose	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
DkA, DkB:					
Dickson	85	Well suited		Well suited	
Eg:					
Egam	90	Well suited		Well suited	
El:					
Ellisville	90	Well suited		Well suited	
En:					
Ennis	85	Well suited		Well suited	
EtB:					
Etowah	85	Well suited		Well suited	
EtC2:					
Etowah	90	Well suited		Well suited	

Table 8.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
EtD2:					
Etowah	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Gu:					
Guthrie	85	Unsuited		Unsuited	
		Wetness	1.00	Wetness	1.00
HbF:					
Hawthorne	55	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
				Slope	1.00
Bodine	45	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
HsC:					
Hawthorne	45	Well suited		Unsuited	
				Restrictive layer	1.00
Sugargrove	35	Well suited		Well suited	
HuC:					
Humphreys	85	Well suited		Well suited	
Ln:					
Lindell	85	Well suited		Well suited	
MmC2:					
Mimosa	85	Poorly suited		Well suited	
		Stickiness	0.50		
MmD2, MmE2:					
Mimosa	90	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness	0.50		
MnD, MnE:					
Mimosa	50	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness	0.50		
Rock outcrop	35	Not rated		Not rated	
MoA, MoB:					
Mountview	85	Well suited		Well suited	
MoC2:					
Mountview	90	Well suited		Well suited	
NeB:					
Nesbitt	85	Well suited		Well suited	
Pt:					
Pits, gravel	75	Not rated		Not rated	
Ta:					
Taft	90	Well suited		Well suited	

Table 8.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
TrB:					
Trace	85	Well suited		Well suited	
Tu:					
Tupelo	90	Well suited		Well suited	
Ur:					
Urban land	75	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 9.—Recreation, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
Ag:							
Agee	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Restricted permeability	1.00				
AmB:							
Armour	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Ar:							
Arrington	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
BaC:							
Barfield	37	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.16	Slope	0.16	Restricted permeability	0.99
						Content of large stones	0.03
Ashwood	31	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
		Slope	0.16	Slope	0.16	Restricted permeability	0.99
						Depth to bedrock	0.10
						Content of large stones	0.03
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Content of large stones	0.03
Ashwood	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Depth to bedrock	0.10
						Content of large stones	0.03
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 9.—Recreation, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
DeD, DeE:							
Dellrose------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.04	Gravel content	0.04	Gravel content	1.00
						Content of large stones	0.01
DkA:							
Dickson-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Depth to cemented pan	0.71
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
DkB:							
Dickson-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Depth to cemented pan	0.71
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
						Depth to saturated zone	0.39
Eg:							
Egam----------------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
El:							
Ellisville----------	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
En:							
Ennis---------------	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.14	Gravel content	1.00
		Gravel content	0.14			Flooding	0.60
EtB:							
Etowah--------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Gravel content	0.06
EtC2:							
Etowah--------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
						Gravel content	0.06
EtD2:							
Etowah--------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.06
Gu:							
Guthrie-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Depth to cemented pan	0.90	Depth to cemented pan	0.90	Depth to cemented pan	0.90

Table 9.—Recreation, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
HbF:							
Hawthorne	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.22	Gravel content	0.22	Gravel content	1.00
						Depth to bedrock	0.80
						Content of large stones	0.01
Bodine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.90	Gravel content	0.90	Gravel content	1.00
						Content of large stones	0.32
HsC:							
Hawthorne	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Gravel content	1.00
		Gravel content	0.22	Gravel content	0.22	Slope	1.00
						Depth to bedrock	0.80
						Content of large stones	0.01
Sugargrove	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Gravel content	0.11	Gravel content	0.11	Gravel content	1.00
						Content of large stones	0.01
HuC:							
Humphreys	85	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.25	Gravel content	0.25	Gravel content	1.00
						Slope	1.00
Ln:							
Lindell	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.48	Depth to saturated zone	0.81
		Depth to saturated zone	0.81			Flooding	0.60
						Gravel content	0.06
MmC2:							
Mimosa	85	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.98	Restricted permeability	0.98	Slope	1.00
		Slope	0.01	Slope	0.01	Restricted permeability	0.98
						Gravel content	0.06
MmD2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
						Gravel content	0.06
MmE2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.99	Restricted permeability	0.99	Restricted permeability	0.99
						Gravel content	0.06

Table 9.—Recreation, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MnD, MnE:							
Mimosa	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
						Gravel content	0.06
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA:							
Mountview	85	Not limited		Not limited		Not limited	
MoB:							
Mountview	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
MoC2:							
Mountview	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
NeB:							
Nesbitt	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Restricted permeability	0.21	Slope	0.50
		Restricted permeability	0.21	Depth to saturated zone	0.19	Depth to saturated zone	0.39
						Restricted permeability	0.21
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Depth to cemented pan	0.80	Depth to cemented pan	0.80	Depth to cemented pan	0.80
TrB:							
Trace	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50
Tu:							
Tupelo	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Restricted permeability	0.99	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.88	Restricted permeability	0.99
		Restricted permeability	0.99			Flooding	0.60
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—Recreation, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
Ag:							
Agee	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AmB:							
Armour	85	Not limited		Not limited		Not limited	
Ar:							
Arrington	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
BaC:							
Barfield	37	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Slope	0.16
						Content of large stones	0.03
Ashwood	31	Not limited		Not limited		Somewhat limited	
						Slope	0.16
						Depth to bedrock	0.10
						Content of large stones	0.03
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
						Content of large stones	0.03
Ashwood	31	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Depth to bedrock	0.10
						Content of large stones	0.03
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
						Gravel content	0.04
						Content of large stones	0.01
DeE:							
Dellrose	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
						Gravel content	0.04
						Content of large stones	0.01

Table 9.—Recreation, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
DkA, DkB:							
Dickson	85	Not limited		Not limited		Somewhat limited	
						Depth to cemented pan	0.71
						Depth to saturated zone	0.19
Eg:							
Egam	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
El:							
Ellisville	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
En:							
Ennis	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
						Gravel content	0.14
EtB:							
Etowah	85	Not limited		Not limited		Not limited	
EtC2:							
Etowah	90	Not limited		Not limited		Somewhat limited	
						Slope	0.04
EtD2:							
Etowah	90	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
Gu:							
Guthrie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Depth to cemented pan	0.90
HbF:							
Hawthorne	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.80
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01
Bodine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.90
						Content of large stones	0.32
						Droughty	0.15

Table 9.—Recreation, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
HsC:							
Hawthorne	45	Not limited		Not limited		Somewhat limited	
						Slope	0.84
						Depth to bedrock	0.80
						Droughty	0.29
						Gravel content	0.22
						Content of large stones	0.01
Sugargrove	35	Not limited		Not limited		Somewhat limited	
						Slope	0.84
						Gravel content	0.11
						Content of large stones	0.01
HuC:							
Humphreys	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.25
Ln:							
Lindell	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.11	Depth to saturated zone	0.11	Flooding	0.60
						Depth to saturated zone	0.48
MmC2:							
Mimosa	85	Not limited		Not limited		Somewhat limited	
						Slope	0.01
MmD2:							
Mimosa	90	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
MmE2:							
Mimosa	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
MnD:							
Mimosa	50	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Slope	1.00
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Not limited		Not limited		Not limited	
MoC2:							
Mountview	90	Not limited		Not limited		Somewhat limited	
						Slope	0.04
NeB:							
Nesbitt	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19

Table 9.—Recreation, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Depth to cemented pan	0.79
TrB:							
Trace	85	Not limited		Not limited		Not limited	
Tu:							
Tupelo	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
						Flooding	0.60
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—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: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
Ag:										
Agee	Fair	Fair	Fair	Good	Poor	Good	Good	Fair	Good	Good
AmB:										
Armour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Ar:										
Arrington	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
BaC, BaE:										
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Fair	Good	Fair	Good	Fair	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop.										
DeD:										
Dellrose	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DeE:										
Dellrose	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DkA, DkB:										
Dickson	Good	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
Eg:										
Egam	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
El:										
Ellisville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
En:										
Ennis	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
EtB:										
Etowah	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
EtC2:										
Etowah	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
EtD2:										
Etowah	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
Gu:										
Guthrie	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
HbF:										
Hawthorne	Very poor	Poor	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Bodine	Very poor	Poor	Poor	Fair	Fair	Very poor	Very poor	Poor	Poor	Very poor
HsC:										
Hawthorne	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Sugargrove	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HuC:										
Humphreys	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Ln:										
Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
MmC2:										
Mimosa	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MmD2:										
Mimosa	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MmE2:										
Mimosa	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MnD, MnE:										
Mimosa	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rock outcrop.										
MoA, MoB:										
Mountview	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
MoC2:										
Mountview	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
NeB:										
Nesbitt	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
Pt.										
Pits, gravel										
Ta:										
Taft	Fair	Good	Good	Good	Poor	Fair	Fair	Good	Good	Fair

Table 10.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
TrB:										
Trace	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Tu:										
Tupelo	Poor	Fair	Fair	Good	Poor	Fair	Fair	Fair	Good	Fair
Ur.										
Urban land										
W.										
Water										

Table 11.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Ag:							
Agee	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
AmB:							
Armour	85	Not limited		Not limited		Not limited	
Ar:							
Arrington	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
BaC:							
Barfield	37	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
Ashwood	31	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.16	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.10	Slope	0.16	Depth to hard bedrock	0.10
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
Ashwood	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.10	Depth to hard bedrock	1.00	Depth to hard bedrock	0.10
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD, DeE:							
Dellrose	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
DkA, DkB:							
Dickson	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Eg:							
Egam	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.94	Shrink-swell	0.50
				Shrink-swell	0.50		
El:							
Ellisville	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.15		
En:							
Ennis	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.03		
EtB:							
Etowah	85	Not limited		Not limited		Not limited	
EtC2:							
Etowah	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
EtD2:							
Etowah	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Gu:							
Guthrie	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
HbF:							
Hawthorne	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.79		
Bodine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HsC:							
Hawthorne	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
				Depth to soft bedrock	0.79		
Sugargrove	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
HuC:							
Humphreys	85	Not limited		Not limited		Very limited	
						Slope	1.00

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Ln:							
Lindell	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
MmC2:							
Mimosa	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.01	Slope	0.01	Slope	1.00
				Depth to hard bedrock	0.01		
MmD2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.01		
MmE2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.01		
MnD:							
Mimosa	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Not limited		Somewhat limited		Not limited	
				Shrink-swell	0.50		
MoC2:							
Mountview	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
NeB:							
Nesbitt	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
TrB:							
Trace	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Tu:							
Tupelo	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Local roads and streets: Value	Shallow excavations: Rating class and limiting features	Shallow excavations: Value	Lawns and landscaping: Rating class and limiting features	Lawns and landscaping: Value
Ag:							
Agee	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Too clayey	0.50		
		Flooding	0.40	Cutbanks cave	0.10		
AmB:							
Armour	85	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
Ar:							
Arrington	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
BaC:							
Barfield	37	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
						Droughty	1.00
		Shrink-swell	1.00	Too clayey	0.88	Slope	0.16
		Slope	0.16	Slope	0.16	Content of large stones	0.03
				Cutbanks cave	0.10		
Ashwood	31	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Slope	0.16
		Slope	0.16			Depth to bedrock	0.10
		Depth to hard bedrock	0.10	Too clayey	0.88	Content of large stones	0.03
				Slope	0.16		
				Cutbanks cave	0.10		
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
						Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	1.00	Too clayey	0.88	Content of large stones	0.03
				Cutbanks cave	0.10		
Ashwood	31	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.10
		Depth to hard bedrock	0.10	Slope	1.00	Content of large stones	0.03
				Too clayey	0.88		
				Cutbanks cave	0.10		
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
DeD:							
Dellrose------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Gravel content	0.04
						Content of large stones	0.01
DeE:							
Dellrose------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.04
						Content of large stones	0.01
DkA, DkB:							
Dickson-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to cemented pan	0.71
				Cutbanks cave	0.10	Depth to saturated zone	0.19
Eg:							
Egam----------------	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.94	Flooding	1.00
		Shrink-swell	0.50	Flooding	0.80		
				Cutbanks cave	0.10		
				Too clayey	0.04		
El:							
Ellisville----------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Depth to saturated zone	0.15		
				Cutbanks cave	0.10		
En:							
Ennis---------------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60	Gravel content	0.14
				Depth to saturated zone	0.03		
EtB:							
Etowah--------------	85	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
EtC2:							
Etowah--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
EtD2:							
Etowah--------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Gu:							
Guthrie	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	0.10	Depth to cemented pan	0.90
HbF:							
Hawthorne	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.79	Depth to bedrock	0.80
						Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01
Bodine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.90
						Content of large stones	0.32
						Droughty	0.15
HsC:							
Hawthorne	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84	Slope	0.84
				Depth to soft bedrock	0.79	Depth to bedrock	0.80
						Droughty	0.29
				Cutbanks cave	0.10	Gravel content	0.22
						Content of large stones	0.01
Sugargrove	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.84	Cutbanks cave	1.00	Slope	0.84
				Slope	0.84	Gravel content	0.11
						Content of large stones	0.01
HuC:							
Humphreys	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.25
Ln:							
Lindell	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.48			Depth to saturated zone	0.48
				Flooding	0.60		
				Cutbanks cave	0.10		
MmC2:							
Mimosa	85	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Too clayey	0.88	Slope	0.01
		Slope	0.01	Cutbanks cave	0.10		
				Slope	0.01		
				Depth to hard bedrock	0.01		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MmD2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.88		
				Cutbanks cave	0.10		
				Depth to hard bedrock	0.01		
MmE2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.88		
				Cutbanks cave	0.10		
				Depth to hard bedrock	0.01		
MnD:							
Mimosa	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.88		
				Cutbanks cave	0.10		
				Depth to hard bedrock	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	0.88		
				Cutbanks cave	0.10		
				Depth to hard bedrock	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
MoC2:							
Mountview	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
NeB:							
Nesbitt	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to saturated zone	0.19
				Too clayey	0.28		
				Cutbanks cave	0.10		
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Ta:							
Taft	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to saturated zone	0.94
				Cutbanks cave	0.10	Depth to cemented pan	0.79
TrB:							
Trace	85	Somewhat limited		Very limited		Not limited	
		Flooding	0.40	Cutbanks cave	1.00		
Tu:							
Tupelo	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Shrink-swell	1.00	Too clayey	0.88	Flooding	0.60
		Depth to saturated zone	0.88	Flooding	0.60		
				Cutbanks cave	0.10		
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Ag:					
Agee	85	Very limited		Very limited	
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
AmB:					
Armour	85	Somewhat limited		Somewhat limited	
		Restricted permeability	0.46	Seepage	0.53
				Slope	0.32
Ar:					
Arrington	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.46	Seepage	0.53
		Depth to saturated zone	0.40		
BaC:					
Barfield	37	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.16	Slope	1.00
Ashwood	31	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.16		
Rock outcrop	25	Not rated		Not rated	
BaE:					
Barfield	37	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Ashwood	31	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Rock outcrop	25	Not rated		Not rated	
DeD:					
Dellrose	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.50	Seepage	0.50

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
DeE:					
Dellrose	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
DkA:					
Dickson	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Restricted permeability	0.46	Depth to saturated zone	0.25
DkB:					
Dickson	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Restricted permeability	0.46	Slope	0.32
				Depth to saturated zone	0.25
Eg:					
Egam	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
El:					
Ellisville	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	0.50
		Depth to saturated zone	0.40		
En:					
Ennis	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.08	Seepage	1.00
EtB:					
Etowah	85	Somewhat limited		Somewhat limited	
		Restricted permeability	0.46	Seepage	0.53
				Slope	0.32
EtC2:					
Etowah	90	Somewhat limited		Very limited	
		Restricted permeability	0.46	Slope	1.00
		Slope	0.04	Seepage	0.53
EtD2:					
Etowah	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.46	Seepage	0.53

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Gu:					
Guthrie	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.46	Seepage	0.53
HbF:					
Hawthorne	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
Bodine	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
HsC:					
Hawthorne	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.84	Seepage	1.00
				Slope	1.00
Sugargrove	35	Somewhat limited		Very limited	
		Depth to bedrock	0.94	Slope	1.00
		Slope	0.84	Seepage	1.00
				Depth to soft bedrock	0.84
HuC:					
Humphreys	85	Not limited		Very limited	
				Seepage	1.00
				Slope	1.00
Ln:					
Lindell	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.46	Seepage	0.53
MmC2:					
Mimosa	85	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Depth to bedrock	0.36	Depth to hard bedrock	0.01
		Slope	0.01		
MmD2, MmE2:					
Mimosa	90	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.01
		Depth to bedrock	0.36		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MnD, MnE:					
Mimosa	50	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.01
		Depth to bedrock	0.36		
Rock outcrop	35	Not rated		Not rated	
MoA:					
Mountview	85	Somewhat limited		Somewhat limited	
		Restricted permeability	0.46	Seepage	0.53
MoB:					
Mountview	85	Somewhat limited		Somewhat limited	
		Restricted permeability	0.46	Seepage	0.53
				Slope	0.32
MoC2:					
Mountview	90	Somewhat limited		Very limited	
		Restricted permeability	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
NeB:					
Nesbitt	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.53
				Slope	0.32
Pt:					
Pits, gravel	75	Not rated		Not rated	
Ta:					
Taft	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Restricted permeability	0.46		
TrB:					
Trace	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Flooding	0.40
		Restricted permeability	0.46	Slope	0.32
		Flooding	0.40		
Tu:					
Tupelo	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
Ur:					
Urban land----------	75	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 12.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Ag:							
Agee	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
AmB:							
Armour	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Ar:							
Arrington	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
BaC:							
Barfield	37	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Ashwood	31	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Ashwood	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
DeE:							
Dellrose	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.01
DkA, DkB:							
Dickson	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	0.75	Hard to compact	1.00
						Depth to saturated zone	0.86
Eg:							
Egam	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	0.50			Depth to saturated zone	0.07
El:							
Ellisville	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
En:							
Ennis	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.52
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.36
		Seepage	1.00	Seepage	1.00		
EtB:							
Etowah	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
EtC2:							
Etowah	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
EtD2:							
Etowah	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Gu:							
Guthrie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
HbF:							
Hawthorne	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00	Slope	1.00
				Depth to bedrock	1.00	Seepage	0.52
						Gravel content	0.34
Bodine	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage	1.00	Seepage	1.00	Gravel content	0.93
		Too clayey	0.50			Seepage	0.52
						Too clayey	0.50
HsC:							
Hawthorne	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Slope	0.84	Depth to bedrock	1.00	Slope	0.84
				Slope	0.84	Seepage	0.52
						Gravel content	0.34
Sugargrove	35	Very limited		Very limited		Somewhat limited	
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.84
		Slope	0.84	Depth to bedrock	0.84	Slope	0.84
		Too clayey	0.50	Slope	0.84	Too clayey	0.50
						Seepage	0.22
						Gravel content	0.09
HuC:							
Humphreys	85	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Too clayey	0.50			Too clayey	0.50
						Gravel content	0.46
Ln:							
Lindell	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
MmC2:							
Mimosa	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.01	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.01	Hard to compact	1.00
		Slope	0.01			Slope	0.01
						Depth to bedrock	0.01
MmD2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.01	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.01

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MmE2:							
Mimosa	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.01	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.01
MnD:							
Mimosa	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.01	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.01
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.01	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	0.01
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
						Too clayey	0.50
MoC2:							
Mountview	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
NeB:							
Nesbitt	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Too clayey	0.50			Too clayey	0.50
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
TrB:							
Trace	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	0.23

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tu:							
Tupelo	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Hard to compact	1.00
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part I

(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 or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Ag:					
Agee	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AmB:					
Armour	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ar:					
Arrington	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BaC, BaE:					
Barfield	37	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ashwood	31	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	25	Not rated		Not rated	
DeD, DeE:					
Dellrose	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DkA, DkB:					
Dickson	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Eg:					
Egam	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
El:					
Ellisville	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
En:					
Ennis	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
EtB:					
Etowah	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
EtC2, EtD2:					
Etowah	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gu:					
Guthrie	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HbF:					
Hawthorne	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bodine	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
HsC:					
Hawthorne	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sugargrove	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HuC:					
Humphreys	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ln:					
Lindell	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MmC2:					
Mimosa	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MmD2, MmE2:					
Mimosa	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MnD, MnE:					
Mimosa	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	35	Not rated		Not rated	

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
MoA, MoB:					
Mountview-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MoC2:					
Mountview-----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NeB:					
Nesbitt-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pt:					
Pits, gravel--------	75	Not rated		Not rated	
Ta:					
Taft----------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
TrB:					
Trace---------------	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.44	Thickest layer	0.00
Tu:					
Tupelo--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ur:					
Urban land----------	75	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—Construction Materials, Part II

(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	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Ag:							
Agee	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.12	Depth to saturated zone	0.00
AmB:							
Armour	85	Fair		Good		Good	
		Low content of organic matter	0.12				
		Too acid	0.74				
		Water erosion	0.90				
Ar:							
Arrington	85	Fair		Good		Good	
		Water erosion	0.99				
BaC:							
Barfield	37	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Shrink-swell	0.12	Depth to bedrock	0.00
		Depth to bedrock	0.00			Rock fragments	0.28
						Slope	0.84
Ashwood	31	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.87	Shrink-swell	0.17	Slope	0.84
		Low content of organic matter	0.88			Depth to bedrock	0.90
		Depth to bedrock	0.90			Rock fragments	0.95
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Depth to bedrock	0.00
						Rock fragments	0.28
Ashwood	31	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.87	Slope	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.17	Depth to bedrock	0.90
		Depth to bedrock	0.90			Rock fragments	0.95
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Poor		Fair		Poor	
		Low content of organic matter	0.00	Slope	0.98	Slope	0.00
		Too acid	0.54			Rock fragments	0.03
						Hard to reclaim	0.95
						Too acid	0.98

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
DeE:							
Dellrose	85	Poor		Poor		Poor	
		Low content of organic matter	0.00	Slope	0.00	Slope	0.00
		Too acid	0.54			Rock fragments	0.03
						Hard to reclaim	0.95
						Too acid	0.98
DkA, DkB:							
Dickson	85	Poor		Poor		Fair	
		Low content of organic matter	0.00	Depth to cemented pan	0.00	Depth to cemented pan	0.29
		Depth to cemented pan	0.29	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.32			Too acid	0.88
		Water erosion	0.90				
		Droughty	0.91				
Eg:							
Egam	90	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.87	Too clayey	0.00
		Low content of organic matter	0.12				
		Water erosion	0.99				
El:							
Ellisville	90	Poor		Good		Fair	
		Low content of organic matter	0.00			Too acid	0.98
		Too acid	0.54				
		Water erosion	0.99				
En:							
Ennis	85	Poor		Good		Poor	
		Low content of organic matter	0.00			Rock fragments	0.00
		Too acid	0.54			Hard to reclaim	0.50
						Too acid	0.98
EtB:							
Etowah	85	Fair		Good		Fair	
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32			Rock fragments	0.97
		Water erosion	0.99				
EtC2:							
Etowah	90	Fair		Good		Fair	
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32			Slope	0.97
		Water erosion	0.99			Rock fragments	0.97
EtD2:							
Etowah	90	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.98	Slope	0.00
		Too acid	0.32			Too acid	0.88
		Water erosion	0.99			Rock fragments	0.97

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Gu:							
Guthrie	85	Fair		Poor		Poor	
		Depth to cemented pan	0.10	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too acid	0.12	Depth to cemented pan	0.00	Depth to cemented pan	0.10
		Low content of organic matter	0.12			Too acid	0.59
		Droughty	0.69				
		Water erosion	0.90				
HbF:							
Hawthorne	55	Fair		Poor		Poor	
		Droughty	0.02	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.12	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.21			Depth to bedrock	0.21
						Too acid	0.59
Bodine	45	Poor		Poor		Poor	
		Low content of organic matter	0.00	Slope	0.00	Slope	0.00
		Too acid	0.12	Cobble content	0.87	Rock fragments	0.00
						Hard to reclaim	0.00
						Too acid	0.59
HsC:							
Hawthorne	45	Fair		Poor		Poor	
		Droughty	0.02	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.12			Slope	0.16
		Depth to bedrock	0.21			Depth to bedrock	0.21
						Too acid	0.59
Sugargrove	35	Fair		Fair		Poor	
		Low content of organic matter	0.12	Depth to bedrock	0.16	Rock fragments	0.00
		Too acid	0.32			Slope	0.16
						Hard to reclaim	0.82
						Too acid	0.88
HuC:							
Humphreys	85	Fair		Good		Poor	
		Low content of organic matter	0.12			Rock fragments	0.00
		Too acid	0.54			Hard to reclaim	0.18
						Too acid	0.98
Ln:							
Lindell	85	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.29	Depth to saturated zone	0.29
						Rock fragments	0.88
MmC2:							
Mimosa	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.99	Too acid	0.98
		Too acid	0.54			Slope	0.99
		Water erosion	0.99				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MmD2:							
Mimosa	90	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
		Low content of organic matter	0.12	Slope	0.98	Slope	0.00
		Too acid	0.54	Depth to bedrock	0.99	Too acid	0.98
		Water erosion	0.99				
MmE2:							
Mimosa	90	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.87	Too clayey	0.00
		Too acid	0.54	Depth to bedrock	0.99	Too acid	0.98
		Water erosion	0.99				
MnD:							
Mimosa	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
		Low content of organic matter	0.12	Slope	0.98	Slope	0.00
		Too acid	0.54	Depth to bedrock	0.99	Too acid	0.98
		Water erosion	0.99				
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Shrink-swell	0.12	Too clayey	0.00
		Too acid	0.54	Depth to bedrock	0.99	Too acid	0.98
		Water erosion	0.99				
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Poor		Fair		Fair	
		Low content of organic matter	0.00	Shrink-swell	0.99	Hard to reclaim	0.88
		Too acid	0.32			Too acid	0.88
		Water erosion	0.90				
MoC2:							
Mountview	90	Poor		Fair		Fair	
		Low content of organic matter	0.00	Shrink-swell	0.98	Hard to reclaim	0.88
		Too acid	0.32			Too acid	0.88
		Water erosion	0.90			Slope	0.96
NeB:							
Nesbitt	85	Poor		Fair		Fair	
		Low content of organic matter	0.00	Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Too acid	0.74				
		Water erosion	0.90				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Fair		Poor		Fair	
		Low content of organic matter	0.12	Depth to cemented pan	0.00	Depth to saturated zone	0.04
		Depth to cemented pan	0.21	Depth to saturated zone	0.04	Depth to cemented pan	0.21
		Too acid	0.32			Too acid	0.88
		Droughty	0.83				
		Water erosion	0.90				
TrB:							
Trace	85	Fair		Good		Poor	
		Low content of organic matter	0.12			Hard to reclaim	0.00
		Too acid	0.74				
		Water erosion	0.99				
Tu:							
Tupelo	90	Poor		Fair		Poor	
		Too clayey	0.00	Depth to saturated zone	0.07	Too clayey	0.00
		Low content of organic matter	0.00	Shrink-swell	0.20	Depth to saturated zone	0.07
		Too acid	0.84				
		Water erosion	0.99				
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 14.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Ag:							
Agee	85	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
				Hard to pack	1.00	Cutbanks cave	0.10
AmB:							
Armour	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.82	Deep to water	1.00
Ar:							
Arrington	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.97	Deep to water	1.00
BaC:							
Barfield	37	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to bedrock	1.00	Hard to pack	0.24		
Ashwood	31	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.69	Thin layer	0.70	Deep to water	1.00
				Hard to pack	0.38		
Rock outcrop	25	Not rated		Not rated		Not rated	
BaE:							
Barfield	37	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	Deep to water	1.00
		Depth to bedrock	1.00	Hard to pack	0.24		
		Slope	0.50				
Ashwood	31	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.69	Thin layer	0.70	Deep to water	1.00
		Slope	0.50	Hard to pack	0.38		
Rock outcrop	25	Not rated		Not rated		Not rated	
DeD:							
Dellrose	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.82	Deep to water	1.00
		Slope	0.04				
DeE:							
Dellrose	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.82	Deep to water	1.00
		Slope	0.50				
DkA, DkB:							
Dickson	85	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.93	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Piping	1.00		
				Thin layer	0.93		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Eg:							
Egam	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	0.37	Slow refill	0.96
						Deep to water	0.29
						Cutbanks cave	0.10
El:							
Ellisville	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.95	Deep to water	1.00
En:							
Ennis	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Deep to water	1.00
EtB:							
Etowah	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.68	Deep to water	1.00
EtC2:							
Etowah	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.68	Deep to water	1.00
EtD2:							
Etowah	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.68	Deep to water	1.00
		Slope	0.04				
Gu:							
Guthrie	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to cemented pan	0.98	Ponding	1.00	Slow refill	0.28
		Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	1.00		
				Thin layer	0.98		
HbF:							
Hawthorne	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.95	Deep to water	1.00
		Slope	0.88				
		Depth to bedrock	0.23				
Bodine	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	Deep to water	1.00
		Slope	0.88				
HsC:							
Hawthorne	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.95	Deep to water	1.00
		Depth to bedrock	0.23				
		Slope	0.01				
Sugargrove	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.91	Deep to water	1.00
		Slope	0.01	Thin layer	0.26		
		Depth to bedrock	0.01				
HuC:							
Humphreys	85	Very limited		Not limited		Very limited	
		Seepage	1.00			Deep to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Ln:							
Lindell	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.92		
MmC2:							
Mimosa	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.01	Hard to pack	0.50	Deep to water	1.00
				Thin layer	0.01		
MmD2:							
Mimosa	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Hard to pack	0.50	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.01		
MmE2:							
Mimosa	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Hard to pack	0.50	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.01		
MnD:							
Mimosa	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Hard to pack	0.50	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MnE:							
Mimosa	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Hard to pack	0.50	Deep to water	1.00
		Depth to bedrock	0.01	Thin layer	0.01		
Rock outcrop	35	Not rated		Not rated		Not rated	
MoA, MoB:							
Mountview	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.72			Deep to water	1.00
MoC2:							
Mountview	90	Somewhat limited		Not limited		Very limited	
		Seepage	0.72			Deep to water	1.00
NeB:							
Nesbitt	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
				Piping	0.03	Deep to water	0.01
Pt:							
Pits, gravel	75	Not rated		Not rated		Not rated	
Ta:							
Taft	90	Somewhat limited		Very limited		Very limited	
		Depth to cemented pan	0.95	Depth to saturated zone	1.00	Deep to water	1.00
		Seepage	0.72	Piping	0.99		
				Thin layer	0.95		
TrB:							
Trace	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.44	Deep to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tu:							
Tupelo	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	0.46	Cutbanks cave	0.10
Ur:							
Urban land	75	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.—Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Ag:												
Agee------------	0-10	Silty clay loam	CH, CL	A-6, A-7	0	0	95-100	95-100	95-100	85-95	35-55	20-35
	10-65	Clay, silty clay	CH	A-7	0	0	95-100	95-100	95-100	85-95	50-75	30-50
AmB:												
Armour----------	0-7	Silt loam	CL-ML, ML, CL	A-4	0	0	90-100	80-100	75-95	70-90	25-35	5-10
	7-65	Silty clay loam, silt loam	CL	A-4, A-6	0	0	90-100	80-100	75-95	70-95	30-40	8-18
Ar:												
Arrington-------	0-10	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	90-100	85-95	75-95	25-40	4-15
	10-51	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-40	4-15
	51-65	Silty clay loam, silt loam, clay loam	CL, MH, ML	A-4, A-6, A-7	0	0	85-100	75-100	65-95	55-95	28-55	8-25
BaC, BaE:												
Barfield--------	0-3	Silty clay loam	MH, CL, CH	A-6, A-7	0-5	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	3-12	Clay, flaggy clay	MH, CL, CH	A-6, A-7	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	12-14	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Ashwood---------	0-12	Silty clay loam	ML, CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	12-35	Clay, silty clay	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	35-37	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
DeD, DeE:												
Dellrose--------	0-8	Gravelly silt loam	CL, SC, GC, CL-ML	A-4, A-6	---	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	8-80	Gravelly silty clay loam, gravelly silt loam	CL, SC, ML, GC	A-4, A-6, A-7	---	0-15	60-90	55-90	50-75	40-70	30-45	8-18

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
DkA, DkB:												
Dickson---------	0-12	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	75-95	20-28	2-7
	12-27	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	85-95	25-38	5-17
	27-42	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	95-100	90-100	85-100	80-95	25-42	7-20
	42-65	Silty clay loam, clay, gravelly clay	GC, ML, MH, CL	A-6, A-7	---	0-20	70-100	60-100	55-100	45-95	35-65	12-30
Eg:												
Egam------------	0-5	Silt loam, silty clay loam	CL-ML, ML, CL	A-4, A-6, A-7	0	0	95-100	95-100	85-100	75-95	21-45	4-20
	5-35	Clay, silty clay, silty clay loam	CL, CH	A-6, A-7	0	0	95-100	95-100	90-100	85-95	38-60	15-30
	35-65	Silty clay loam, clay, clay loam	CH, CL, ML	A-4, A-6, A-7	0	0	95-100	95-100	90-100	70-95	25-60	8-30
El:												
Ellisville------	0-8	Silt loam	SC-SM, CL-ML, CL, SC	A-4, A-6	0	0	100	100	55-100	40-95	18-38	4-15
	8-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	80-100	65-100	23-38	8-15
En:												
Ennis-----------	0-9	Gravelly silt loam	CL-ML, GM, ML, SM	A-4, A-6	0	0-5	55-85	50-85	40-80	35-70	15-30	NP-12
	9-65	Gravelly silt loam, gravelly loam, gravelly clay loam	SM, CL-ML, GM, ML	A-2, A-4, A-6	0	0-5	55-95	40-85	40-80	30-70	15-35	NP-15

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EtB:												
Etowah----------	0-7	Silt loam	CL, CL-ML, ML, SC-SM	A-4	0	0	80-100	75-100	70-95	45-70	20-30	3-10
	7-54	Clay loam, silty clay loam, silt loam	CL	A-6	0	0	80-100	75-100	70-95	65-85	25-35	10-15
	54-65	Clay loam, clay, silty clay loam	MH, ML, CL	A-6, A-7	0	0	80-100	75-100	70-95	65-85	39-60	15-25
EtC2, EtD2:												
Etowah----------	0-5	Silt loam	CL, CL-ML, ML, SC-SM	A-4	0	0	80-100	75-100	70-95	45-70	20-30	3-10
	5-54	Clay loam, silty clay loam, silt loam	CL	A-6	0	0	80-100	75-100	70-95	65-85	25-35	10-15
	54-65	Clay loam, silty clay loam, clay	ML, MH, CL	A-6, A-7	0	0	80-100	75-100	70-95	65-85	39-60	15-25
Gu:												
Guthrie---------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	85-95	18-28	2-7
	9-24	Silt loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-95	23-39	5-15
	24-65	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0-5	85-100	80-100	75-100	66-95	20-50	4-25
HbF:												
Hawthorne-------	0-14	Gravelly silt loam	ML, GM, GC-GM, CL-ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	14-26	Very channery silty clay loam, very channery silt loam	GM, GC-GM, CL-ML, ML	A-6, A-2, A-4	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	26-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HbF:												
Bodine----------	0-14	Gravelly silt loam	SM, ML, GM, CL-ML	A-1-b, A-2, A-4	---	5-25	30-90	20-75	20-67	20-62	15-30	NP-7
	14-30	Gravelly silt loam, very gravelly silty clay loam, stony silt loam	GC-GM, SC-SM, SC, GC	A-1, A-2, A-4, A-6	---	10-35	30-70	20-65	20-55	15-45	20-38	3-15
	30-72	Very gravelly silty clay loam, gravelly clay loam, very gravelly silt loam	SM, SC, GM, GC	A-2	---	10-35	20-70	15-65	15-45	12-35	26-42	8-16
HsC:												
Hawthorne-------	0-14	Gravelly silt loam	ML, GM, GC-GM, CL-ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	14-26	Very channery silty clay loam, very channery silt loam	CL-ML, ML, GM, GC-GM	A-6, A-2, A-4	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	26-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Sugargrove------	0-15	Gravelly silt loam	CL-ML, CL, GM, ML	A-4	0	0-10	65-85	55-80	45-75	40-75	25-35	4-10
	15-45	Gravelly silt loam, gravelly silty clay loam, channery silty clay loam	GC-GM, CL, CL-ML	A-4, A-6	0	0-15	65-85	55-80	45-75	40-70	25-40	6-20
	45-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HuC:												
Humphreys-------	0-6	Gravelly silt loam	ML, GC-GM, CL-ML, CL	A-4	0	0-5	60-75	55-75	50-70	35-55	18-28	3-10
	6-46	Gravelly silty clay loam, gravelly clay loam, gravelly silt loam	GC, CL, SC	A-6	0	0-5	55-75	50-75	45-70	40-60	28-40	10-16
	46-65	Very gravelly clay loam, gravelly clay loam, gravelly silty clay loam	CL, SC, GC	A-2, A-4, A-6	0	0-10	45-75	40-75	30-65	20-55	25-35	8-15
Ln:												
Lindell---------	0-6	Silt loam	CL-ML, CL, ML	A-4	0	0	90-100	75-100	65-90	55-80	18-30	3-10
	6-60	Silty clay loam, gravelly clay loam, silt loam	CL, CL-ML	A-4, A-6	---	0-2	90-100	75-95	65-90	55-80	23-39	6-18
MmC2, MmD2:												
Mimosa----------	0-5	Silt loam	ML, CL	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-58	Clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	58-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
MmE2:												
Mimosa----------	0-5	Silt loam	ML, CL	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-56	Clay, silty clay	MH, CH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	56-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
MnD, MnE:												
Mimosa----------	0-8	Silt loam	ML, CL	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	8-58	Clay	MH, CH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	58-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												

Table 15.—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 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MoA:												
Mountview-------	0-8	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
	8-30	Silt loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	30-80	Clay, gravelly clay, silty clay loam	ML, MH, CL, CH	A-6, A-7	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
MoB:												
Mountview-------	0-8	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
	8-30	Silt loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	30-80	Clay, cherty clay, silty clay loam	CH, CL, ML, MH	A-6, A-7	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
MoC2:												
Mountview-------	0-4	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
	4-24	Silt loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	24-80	Clay, cherty clay, silty clay loam	CL, MH, ML, CH	A-6, A-7	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
NeB:												
Nesbitt---------	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	80-95	75-90	15-30	3-10
	6-17	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	95-100	85-100	85-95	30-45	10-20
	17-48	Silty clay loam, silt loam	ML, CL	A-6, A-7	0	0	100	95-100	80-95	75-95	30-45	10-20
	48-65	Silty clay, clay	CH, CL, MH	A-7	0	0	95-100	80-100	75-95	70-90	45-65	20-34
Pt.												
Pits, gravel												

Table 15.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Ta:												
Taft------------	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	75-95	18-30	2-10
	6-26	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	85-95	23-38	5-16
	26-65	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	95-100	90-100	85-100	80-95	23-42	5-20
TrB:												
Trace-----------	0-9	Silt loam	CL-ML, ML, CL	A-4	0	0	90-100	85-100	75-95	70-90	18-30	NP-10
	9-35	Silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	70-95	20-40	5-15
	35-38	Very gravelly silt loam, very gravelly loam, very gravelly clay loam	CL, GC-GM, GC	A-1-b, A-2, A-4, A-6	0	0-5	45-75	40-75	30-65	20-55	15-35	4-13
	38-65	Extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly silt loam	GW-GM, GP-GM, GM	A-1	0	0-10	25-40	10-30	5-25	5-15	0-25	NP-5
Tu:												
Tupelo----------	0-8	Silt loam	ML, CL-ML, CL	A-4	0	0	95-100	90-100	80-100	70-90	20-35	3-10
	8-16	Silty clay loam, silty clay	CL, CH	A-6, A-7	0	0	95-100	95-100	90-100	85-95	30-55	11-29
	16-60	Clay, silty clay	CH, CL	A-7	0	0	95-100	95-100	90-100	85-100	41-70	20-42
Ur. Urban land												
W. Water												

Table 16.—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	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Ag:										
Agee	0-10	27-40	1.30-1.50	0.2-0.6	0.17-0.21	6.0-8.9	2.0-4.0	.32	.32	5
	10-65	40-60	1.25-1.45	0.0000-0.06	0.12-0.16	6.0-8.9	0.5-1.0	.32	.32	
AmB:										
Armour	0-7	15-27	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	7-65	22-35	1.30-1.50	0.6-2	0.17-0.20	0.0-2.9	0.0-0.5	.37	.37	
Ar:										
Arrington	0-10	18-35	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	2.0-4.0	.37	.37	5
	10-51	18-35	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	0.5-2.0	.37	.37	
	51-65	20-40	1.30-1.45	0.6-2	0.17-0.22	0.0-2.9	0.5-2.0	.32	.32	
BaC, BaE:										
Barfield	0-3	35-45	1.30-1.50	0.2-0.6	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	3-12	40-60	1.30-1.50	0.0015-0.2	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	12-14	---	---	0.0000-0.0001	---	---	---	---	---	
Ashwood	0-12	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	12-35	40-60	1.30-1.45	0.0015-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	35-37	---	---	0.0000-0.0001	---	---	---	---	---	
Rock outcrop.										
DeD:										
Dellrose	0-8	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	8-80	20-35	1.20-1.40	0.6-2	0.09-0.16	0.0-2.9	---	.24	.28	
DeE:										
Dellrose	0-8	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	8-80	20-35	1.20-1.40	2-6	0.09-0.16	0.0-2.9	---	.24	.28	
DkA, DkB:										
Dickson	0-12	15-26	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	4
	12-27	18-30	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	---	.43	.43	
	27-42	20-32	1.55-1.75	0.0015-0.2	0.01-0.02	0.0-2.9	---	.43	.43	
	42-65	35-50	1.35-1.55	0.2-0.6	0.01-0.02	3.0-5.9	---	.28	.32	
Eg:										
Egam	0-5	20-35	1.30-1.45	0.2-0.6	0.18-0.22	3.0-5.9	2.0-4.0	.32	.32	5
	5-35	35-50	1.30-1.45	0.2-0.6	0.14-0.20	3.0-5.9	0.0-0.5	.32	.32	
	35-65	30-45	1.30-1.45	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.37	.37	
El:										
Ellisville	0-8	18-27	---	0.6-2	0.12-0.22	0.0-2.9	0.5-3.0	.37	.37	5
	8-80	18-35	---	0.6-2	0.18-0.22	0.0-2.9	---	.32	.32	
En:										
Ennis	0-9	12-25	1.30-1.45	2-6	0.10-0.15	0.0-2.9	1.0-3.0	.28	.32	5
	9-65	18-32	1.35-1.50	2-6	0.08-0.15	0.0-2.9	---	.28	.32	
EtB:										
Etowah	0-7	15-27	1.30-1.45	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	7-54	23-35	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
	54-65	32-45	1.40-1.55	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
EtC2, EtD2:										
Etowah------------	0-5	15-27	1.30-1.45	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5
	5-54	23-35	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
	54-65	32-45	1.40-1.55	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
Gu:										
Guthrie-----------	0-9	10-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43	4
	9-24	18-30	1.40-1.60	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	24-65	18-35	1.60-1.75	0.0015-0.06	0.00-0.10	0.0-2.9	0.0-0.5	.43	.43	
HbF:										
Hawthorne---------	0-14	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	14-26	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	26-60	---	---	0.0000-0.2	---	---	---	---	---	
Bodine------------	0-14	8-20	1.35-1.55	2-6	0.07-0.12	0.0-2.9	---	.28	.37	5
	14-30	20-35	1.40-1.60	2-6	0.05-0.10	0.0-2.9	---	.24	.32	
	30-72	23-38	1.40-1.60	2-6	0.05-0.10	0.0-2.9	---	.24	.32	
HsC:										
Hawthorne---------	0-14	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	14-26	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	26-60	---	---	0.0000-0.2	---	---	---	---	---	
Sugargrove--------	0-15	10-27	1.20-1.40	0.6-6	0.14-0.19	0.0-2.9	1.0-3.0	.28	.37	4
	15-45	18-35	1.30-1.50	0.6-6	0.14-0.19	0.0-2.9	0.0-0.5	.28	.32	
	45-60	---	---	0.0000-0.2	---	---	---	---	---	
HuC:										
Humphreys---------	0-6	12-25	1.35-1.50	2-6	0.10-0.15	0.0-2.9	2.0-4.0	.28	.32	5
	6-46	18-32	1.35-1.55	2-6	0.09-0.14	0.0-2.9	0.0-0.5	.24	.28	
	46-65	18-32	1.40-1.60	2-6	0.06-0.12	0.0-2.9	0.0-0.5	.24	.28	
Ln:										
Lindell-----------	0-6	20-32	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5
	6-60	20-35	1.35-1.50	0.6-2	0.14-0.17	0.0-2.9	0.5-1.0	.28	.28	
MmC2:										
Mimosa------------	0-5	18-34	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-58	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	58-60	---	---	0.0000-0.06	---	---	---	---	---	
MmD2:										
Mimosa------------	0-5	18-34	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-58	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	58-60	---	---	0.0000-0.06	---	---	---	---	---	
MmE2:										
Mimosa------------	0-5	18-34	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-56	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	56-60	---	---	0.0000-0.06	---	---	---	---	---	
MnD, MnE:										
Mimosa------------	0-8	18-34	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	8-58	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	58-60	---	---	0.0000-0.06	---	---	---	---	---	
Rock outcrop.										

Table 16.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors		
								Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
MoA, MoB:										
Mountview----------	0-8	15-25	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	8-30	20-35	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	---	.43	.43	
	30-80	35-55	1.30-1.50	0.6-2	0.10-0.15	3.0-5.9	---	.32	.37	
MoC2:										
Mountview----------	0-4	15-25	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	4-24	20-35	1.40-1.60	0.6-2	0.17-0.20	0.0-2.9	---	.43	.43	
	24-80	35-55	1.30-1.50	0.6-2	0.10-0.15	3.0-5.9	---	.32	.37	
NeB:										
Nesbitt------------	0-6	15-30	1.35-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	6-17	20-32	1.40-1.55	0.6-2	0.17-0.20	0.0-2.9	---	.37	.37	
	17-48	20-35	1.50-1.65	0.2-0.6	0.10-0.15	0.0-2.9	---	.37	.37	
	48-65	40-55	1.45-1.60	0.2-0.6	0.10-0.15	3.0-5.9	---	.24	.24	
Pt.										
Pits, gravel										
Ta:										
Taft---------------	0-6	10-25	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-5.0	.43	.43	4
	6-26	18-35	1.30-1.50	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	26-65	18-35	1.50-1.65	0.0015-0.06	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
TrB:										
Trace--------------	0-9	12-22	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.37	.43	4
	9-35	18-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	0.0-0.5	.32	.37	
	35-38	12-27	1.40-1.60	0.6-6	0.07-0.14	0.0-2.9	0.0-0.5	---	---	
	38-65	5-18	1.40-1.60	6-20	0.01-0.07	0.0-2.9	0.0-0.5	---	---	
Tu:										
Tupelo-------------	0-8	18-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.37	.37	5
	8-16	30-45	1.40-1.55	0.2-0.6	0.15-0.20	3.0-5.9	---	.32	.32	
	16-60	40-65	1.40-1.55	0.0015-0.2	0.12-0.16	6.0-8.9	---	.28	.28	
Ur.										
Urban land										
W.										
Water										

Table 17.—Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
Ag:							
Agee	0-10	---	---	5.6-7.8	0	0	0
	10-65	---	---	5.6-7.8	0	0	0
AmB:							
Armour	0-7	---	---	5.1-6.0	0	0	0
	7-65	---	---	5.1-6.0	0	0	0
Ar:							
Arrington	0-10	---	---	6.1-7.8	0	0	0
	10-51	---	---	6.1-7.8	0	0	0
	51-65	---	---	6.1-7.8	0	0	0
BaC, BaE:							
Barfield	0-3	---	---	6.1-7.8	0	0	0
	3-12	---	---	6.1-7.8	0	0	0
	12-14	---	---	---	0	0	0
Ashwood	0-12	---	---	5.6-7.8	0	0	0
	12-35	---	---	5.6-7.8	0	0	0
	35-37	---	---	---	0	0	0
Rock outcrop.							
DeD, DeE:							
Dellrose	0-8	---	---	4.5-6.0	0	0	0
	8-80	---	---	4.5-6.0	0	0	0
DkA, DkB:							
Dickson	0-12	---	---	4.5-5.5	0	0	0
	12-27	---	---	4.5-5.5	0	0	0
	27-42	---	---	4.5-5.5	0	0	0
	42-65	---	---	4.5-5.5	0	0	0
Eg:							
Egam	0-5	---	---	5.6-7.3	0	0	0
	5-35	---	---	5.6-7.3	0	0	0
	35-65	---	---	5.6-8.4	0	0	0
El:							
Ellisville	0-8	5.0-15	---	4.5-6.0	0	0	0
	8-80	5.0-15	---	4.5-6.0	0	0	0
En:							
Ennis	0-9	---	---	4.5-6.0	0	0	0
	9-65	---	---	4.5-6.0	0	0	0
EtB:							
Etowah	0-7	---	---	4.5-5.5	0	0	0
	7-54	---	---	4.5-5.5	0	0	0
	54-65	---	---	4.5-5.5	0	0	0
EtC2, EtD2:							
Etowah	0-5	---	---	4.5-5.5	0	0	0
	5-54	---	---	4.5-5.5	0	0	0
	54-65	---	---	4.5-5.5	0	0	0

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
Gu:							
Guthrie	0-9	---	---	3.6-5.5	0	0	0
	9-24	---	---	3.6-5.5	0	0	0
	24-65	---	---	3.6-5.5	0	0	0
HbF:							
Hawthorne	0-14	---	---	3.6-5.5	0	0	0
	14-26	---	---	3.6-5.5	0	0	0
	26-60	---	---	---	0	0	0
Bodine	0-14	---	---	3.6-5.5	0	0	0
	14-30	---	---	3.6-5.5	0	0	0
	30-72	---	---	3.6-5.5	0	0	0
HsC:							
Hawthorne	0-14	---	---	3.6-5.5	0	0	0
	14-26	---	---	3.6-5.5	0	0	0
	26-60	---	---	---	0	0	0
Sugargrove	0-15	---	5.0-10	4.5-5.5	0	0	0
	15-45	---	5.0-10	4.5-5.5	0	0	0
	45-60	---	---	---	0	0	0
HuC:							
Humphreys	0-6	---	---	4.5-6.0	0	0	0
	6-46	---	---	4.5-6.0	0	0	0
	46-65	---	---	4.5-6.0	0	0	0
Ln:							
Lindell	0-6	---	---	5.6-7.3	0	0	0
	6-60	---	---	5.6-7.3	0	0	0
MmC2, MmD2:							
Mimosa	0-5	---	9.0-16	4.5-6.0	0	0	0
	5-58	---	15-30	4.5-6.0	0	0	0
	58-60	---	---	---	0	0	0
MmE2:							
Mimosa	0-5	---	9.0-16	4.5-6.0	0	0	0
	5-56	---	---	4.5-6.0	0	0	0
	56-60	---	---	---	0	0	0
MnD, MnE:							
Mimosa	0-8	---	9.0-16	4.5-6.0	0	0	0
	8-58	---	15-30	4.5-6.0	0	0	0
	58-60	---	---	---	0	0	0
Rock outcrop.							
MoA, MoB:							
Mountview	0-8	---	---	4.5-5.5	0	0	0
	8-30	---	---	4.5-5.5	0	0	0
	30-80	---	---	4.5-5.5	0	0	0
MoC2:							
Mountview	0-4	---	---	4.5-5.5	0	0	0
	4-24	---	---	4.5-5.5	0	0	0
	24-80	---	---	4.5-5.5	0	0	0

Table 17.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	
NeB:							
Nesbitt-------------	0-6	---	---	5.1-6.0	0	0	0
	6-17	---	---	5.1-6.0	0	0	0
	17-48	---	---	5.1-6.0	0	0	0
	48-65	---	---	5.1-6.0	0	0	0
Pt.							
Pits, gravel							
Ta:							
Taft----------------	0-6	---	---	4.5-5.5	0	0	0
	6-26	---	---	4.5-5.5	0	0	0
	26-65	---	---	4.5-5.5	0	0	0
TrB:							
Trace---------------	0-9	5.0-10	---	5.1-6.0	0	0	0
	9-35	5.0-10	---	5.1-6.0	0	0	0
	35-38	5.0-10	---	5.1-6.0	0	0	0
	38-65	5.0-10	---	5.1-6.0	0	0	0
Tu:							
Tupelo--------------	0-8	---	---	5.1-6.5	0	0	0
	8-16	---	---	5.1-6.5	0	0	0
	16-60	---	---	5.1-6.5	0	0	0
Ur.							
Urban land							
W.							
Water							

Table 18.—Water Features

(Depths of layers are in feet. 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	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Ag:									
Agee	D								
		January	0.0-1.0	>6.0	---	---	None	---	Rare
		February	0.0-1.0	>6.0	---	---	None	---	Rare
		March	0.0-1.0	>6.0	---	---	None	---	Rare
		April	0.0-1.0	>6.0	---	---	None	---	Rare
		May	0.0-1.0	>6.0	---	---	None	---	Rare
		December	0.0-1.0	>6.0	---	---	None	---	Rare
AmB:									
Armour	B								
		Jan-Dec	---	---	---	---	None	---	None
Ar:									
Arrington	B								
		January	4.0-6.0	>6.0	---	---	None	Brief	Frequent
		February	4.0-6.0	>6.0	---	---	None	Brief	Frequent
		March	4.0-6.0	>6.0	---	---	None	Brief	Frequent
		April	---	---	---	---	None	Brief	Frequent
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	Brief	Frequent
BaC, BaE:									
Barfield	D								
		Jan-Dec	---	---	---	---	None	---	None
Ashwood	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.									

Table 18.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
DeD, DeE:									
Dellrose	B								
		Jan-Dec	---	---	---	---	None	---	None
DkA, DkB:									
Dickson	C								
		January	1.5-2.3	---	---	---	None	---	None
		February	1.5-2.3	---	---	---	None	---	None
		March	1.5-2.3	---	---	---	None	---	None
		April	1.5-2.3	---	---	---	None	---	None
		December	1.5-2.3	---	---	---	None	---	None
Eg:									
Egam	C								
		January	3.0-4.0	>6.0	---	---	None	Very brief	Frequent
		February	3.0-4.0	>6.0	---	---	None	Very brief	Frequent
		March	3.0-4.0	>6.0	---	---	None	Very brief	Frequent
		April	---	---	---	---	None	Very brief	Occasional
		December	3.0-4.0	>6.0	---	---	None	Very brief	Frequent
El:									
Ellisville	B								
		January	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		February	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		March	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		April	---	---	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	Brief	Occasional
En:									
Ennis	B								
		January	5.0-6.0	---	---	---	None	Very brief	Occasional
		February	5.0-6.0	---	---	---	None	Very brief	Occasional
		March	5.0-6.0	---	---	---	None	Very brief	Occasional
		April	---	---	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	---	Rare
		December	5.0-6.0	---	---	---	None	Very brief	Occasional

Table 18.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
EtB, EtC2, EtD2:									
Etowah	B								
		Jan-Dec	---	---	---	---	None	---	None
Gu:									
Guthrie	D								
		January	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
		February	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
		March	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
		April	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
		May	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
		June	0.5-0.8	>6.0	---	---	None	---	None
		July	0.5-0.8	>6.0	---	---	None	---	None
		August	0.5-0.8	>6.0	---	---	None	---	None
		September	0.5-0.8	>6.0	---	---	None	---	None
		October	0.5-0.8	>6.0	---	---	None	---	None
		November	0.5-0.8	>6.0	---	---	None	---	None
		December	0.0	>6.0	1.0-3.0	Long	Frequent	---	None
HbF:									
Hawthorne	B								
		Jan-Dec	---	---	---	---	None	---	None
Bodine	B								
		Jan-Dec	---	---	---	---	None	---	None
HsC:									
Hawthorne	B								
		Jan-Dec	---	---	---	---	None	---	None
Sugargrove	B								
		Jan-Dec	---	---	---	---	None	---	None
HuC:									
Humphreys	B								
		Jan-Dec	---	---	---	---	None	---	None
Ln:									
Lindell	C								
		January	1.5-2.0	>6.0	---	---	None	Very brief	Occasional
		February	1.5-2.0	>6.0	---	---	None	Very brief	Occasional
		March	1.5-2.0	>6.0	---	---	None	Very brief	Occasional
		April	1.5-2.0	>6.0	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		December	1.5-2.0	>6.0	---	---	None	Very brief	Occasional

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
MmC2, MmD2, MmE2:									
Mimosa	C								
		Jan-Dec	---	---	---	---	None	---	None
MnD, MnE:									
Mimosa	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.									
MoA, MoB, MoC2:									
Mountview	B								
		Jan-Dec	---	---	---	---	None	---	None
NeB:									
Nesbitt	B								
		January	1.5-2.5	>6.0	---	---	None	---	None
		February	1.5-2.5	>6.0	---	---	None	---	None
		March	1.5-2.5	>6.0	---	---	None	---	None
		April	1.5-2.5	>6.0	---	---	None	---	None
		December	1.5-2.5	>6.0	---	---	None	---	None
Pt.									
Pits, gravel									
Ta:									
Taft	C								
		January	1.0-1.5	---	---	---	None	---	None
		February	1.0-1.5	---	---	---	None	---	None
		March	1.0-1.5	---	---	---	None	---	None
		April	1.0-1.5	---	---	---	None	---	None
		December	1.0-1.5	---	---	---	None	---	None
TrB:									
Trace	B								
		January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare

Table 18.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Tu:									
Tupelo-------------------	D								
		January	1.0-1.5	>6.0	---	---	None	Brief	Occasional
		February	1.0-1.5	>6.0	---	---	None	Brief	Occasional
		March	1.0-1.5	>6.0	---	---	None	Brief	Occasional
		April	1.0-1.5	>6.0	---	---	None	Brief	Occasional
		November	1.0-2.0	>6.0	---	---	None	---	None
		December	1.0-1.5	>6.0	---	---	None	Brief	Occasional
Ur.									
Urban land									
W.									
Water									

Table 19.—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	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
Ag:							
Agee	---	---	---	---	None	High	Low
AmB:							
Armour	---	---	---	---	None	Moderate	Moderate
Ar:							
Arrington	---	---	---	---	None	Low	Low
BaC, BaE:							
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
Ashwood	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Rock outcrop.							
DeD, DeE:							
Dellrose	---	---	---	---	None	High	Moderate
DkA, DkB:							
Dickson	Fragipan	18-30	---	Noncemented	None	Moderate	Moderate
Eg:							
Egam	---	---	---	---	None	High	Low
El:							
Ellisville	---	---	---	---	None	Moderate	Moderate
En:							
Ennis	---	---	---	---	None	Low	Moderate
EtB, EtC2, EtD2:							
Etowah	---	---	---	---	None	Low	Moderate
Gu:							
Guthrie	Fragipan	20-40	---	Noncemented	None	High	High
HbF:							
Hawthorne	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Low	High
Bodine	---	---	---	---	None	Low	High
HsC:							
Hawthorne	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Low	High
Sugargrove	Bedrock (paralithic)	20-60	---	Very strongly cemented	None	Moderate	Moderate
HuC:							
Humphreys	---	---	---	---	None	Moderate	Moderate
Ln:							
Lindell	---	---	---	---	None	Moderate	Low

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In				
MmC2, MmD2, MmE2:							
Mimosa--------	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
MnD, MnE:							
Mimosa---------	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
Rock outcrop.							
MoA, MoB, MoC2:							
Mountview------	---	---	---	---	None	Moderate	Moderate
NeB:							
Nesbitt--------	---	---	---	---	None	High	Moderate
Pt.							
Pits, gravel							
Ta:							
Taft-----------	Fragipan	24-30	---	Noncemented	None	High	High
TrB:							
Trace----------	---	---	---	---	None	Low	Moderate
Tu:							
Tupelo---------	---	---	---	---	None	High	Moderate
Ur.							
Urban land							
W.							
Water							

Table 20.—Classification of the Soils

Soil name	Family or higher taxonomic class
Agee	Fine, smectitic, thermic Vertic Epiaquolls
Armour	Fine-silty, mixed, active, thermic Ultic Hapludalfs
Arrington	Fine-silty, mixed, superactive, thermic Cumulic Hapludolls
Ashwood	Fine, mixed, superactive, thermic Vertic Argiudolls
Barfield	Clayey, mixed, active, thermic Lithic Hapludolls
Bodine	Loamy-skeletal, siliceous, semiactive, thermic Typic Paleudults
Dellrose	Fine-loamy, mixed, semiactive, thermic Typic Paleudults
Dickson	Fine-silty, siliceous, semiactive, thermic Glossic Fragiudults
Egam	Fine, mixed, active, thermic Cumulic Hapludolls
Ellisville	Fine-silty, mixed, active, thermic Dystric Fluventic Eutrudepts
Ennis	Fine-loamy, siliceous, semiactive, thermic Fluventic Dystrudepts
Etowah	Fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Guthrie	Fine-silty, siliceous, semiactive, thermic Typic Fragiaquults
Hawthorne	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Humphreys	Fine-loamy, mixed, semiactive, thermic Ultic Hapludalfs
Lindell	Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts
Mimosa	Fine, mixed, semiactive, thermic Typic Hapludalfs
Mountview	Fine-silty, siliceous, semiactive, thermic Oxyaquic Paleudults
Nesbitt	Fine-silty, siliceous, semiactive, thermic Aquic Paleudalfs
Sugargrove	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Taft	Fine-silty, siliceous, semiactive, thermic Glossaquic Fragiudults
Trace	Fine-silty, mixed, semiactive, thermic Ultic Hapludalfs
Tupelo	Fine, mixed, semiactive, thermic Aquic Hapludalfs

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