United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the Tennessee Agricultural Experiment Station, the Marshall County Board of Commissioners, and the Tennessee Department of Agriculture

Soil Survey of Marshall County, Tennessee

Persons with disabilities who would like to access this soil survey should contact the local office of the Natural Resources Conservation Service for assistance.

Paper copies of the maps can be obtained from the Natural Resources Conservation Service, A.L. Collins Building, 1171 Nashville Highway, Lewisburg, TN 37091 (telephone number 931-359-6268, ext. 3).

How to Use This Soil Survey

General Soil Map

The general soil map, which is the color map preceding the detailed soil maps, 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.

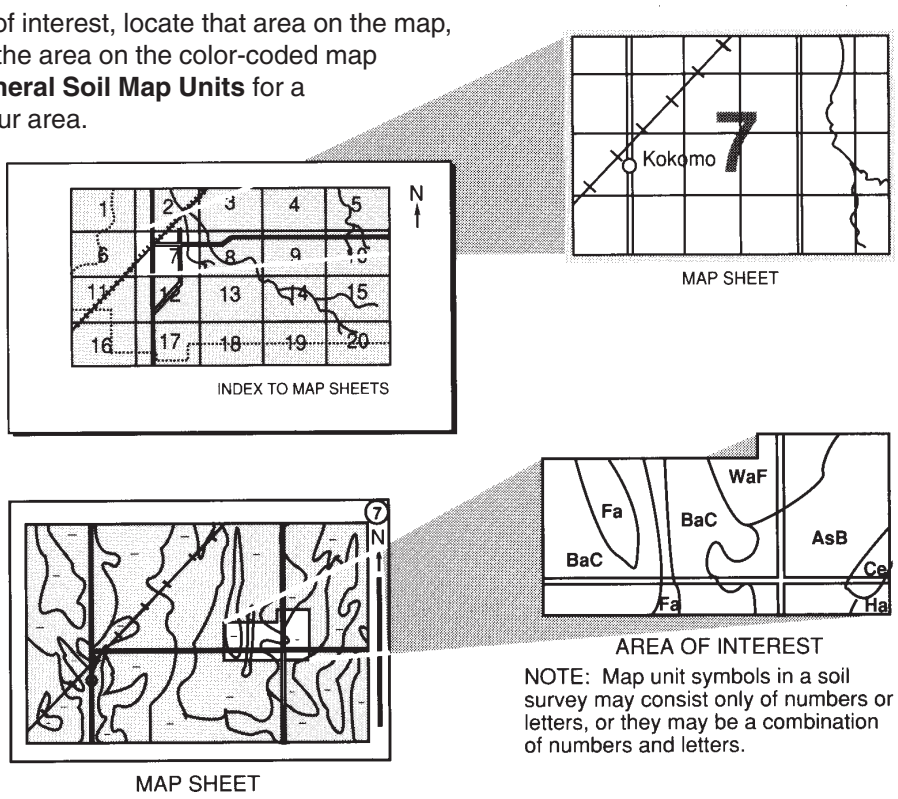
To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

Detailed Soil Maps

The detailed soil maps follow the general soil map. These 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**, which precedes the soil maps. 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.



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.

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.

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 1995. Soil names and descriptions were approved in 1999. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1999. This survey was made cooperatively by the Natural Resources Conservation Service, the Tennessee Agricultural Experiment Station, the Marshall County Board of Commissioners, and the Tennessee Department of Agriculture. The survey is part of the technical assistance furnished to the Marshall County Soil Conservation District.

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

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Cover: Beef cattle in a pastured area of Marshall County. Livestock production is an important enterprise in the county.

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.

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June 2002 Digital Copy

Foreword

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

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

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

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. 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
Marshall County, Tennessee

By Charles L. Davis, Natural Resources Conservation Service

Fieldwork by Charles L. Davis, Anthony Khiel, Evelyn Haskins, and Steve Monteith, Natural Resources Conservation Service, and Jack Colflesh, Marshall County

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

MARSHALL COUNTY is in south-central Tennessee (fig. 1). It is bordered on the north by Williamson and Rutherford Counties, on the west by Maury County, on the east by Bedford County, and on the south by Giles and Lincoln Counties.

The county has a land area of 241,000 acres, or 377 square miles. Lewisburg, the county seat, is near the center of the county. In 1990, the population of the county was 21,539.

General Nature of the County

This section gives general information about the county. It describes settlement; natural resources; industry and transportation facilities; physiography, relief, and drainage; and climate.

Settlement

The first land that was cleared and settled was an area along the Duck River (Wright 1963). The area was settled during the early 1800's. The early settlers hunted, cleared land, and grew crops. Most of the land has been cleared at some time during the history of the county. Many areas that were unsuitable for settlement were abandoned and allowed to revert back to native woodland.

Marshall County was formed from parts of Bedford, Maury, and Lincoln Counties in 1836, with a district from Giles County added in 1870. The county was named for John Marshall, Chief Justice of the U.S. Supreme Court. The town of Lewisburg was incorporated and established as the county seat in 1837 (Marshall County Historical Society 1972, 1986). Cornersville, Chapel Hill, and Petersburg are some of the larger communities in Marshall County.

Natural Resources

Marshall County has a generous amount of natural resources. The most important resources are the soil, rivers and streams, forest, wildlife, and limestone bedrock.

The Duck River is the largest waterway, but there are numerous smaller creeks and streams throughout the county. The two main sources of potable water are private wells, which are drilled into limestone geologic formations, and reservoirs, from which water is taken, processed through a water treatment facility, and piped to different areas in the county. The soils

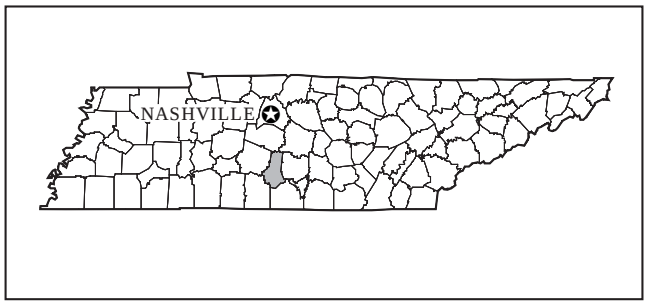

Figure 1.—Location of Marshall County in Tennessee.

produce good yields of small grain and forage plants for livestock and other agricultural products. Limestone quarries provide the region with crushed stone used for road construction and as fill material, agricultural lime, and many other products.

About one-third of the acreage in the county is used as woodland. Most of the marketable timber is on the higher ridges in the southern part of the county. The forest provides valuable habitat for many wildlife species, such as squirrel, deer, fox, turkey, and numerous other woodland wildlife. Open areas provide suitable habitat for quail, rabbit, dove, and other small game species.

Industry and Transportation Facilities

Agriculture is the primary industry in the county. About 81,000 acres in the county is used as farmland. Dairy enterprises have been a major part of the agricultural industry since early in the county's history (Marshall County Historical Society 1986). In the early years, Jersey cattle were the dairy cattle of choice; however, Holstein cattle now dominate the dairy industry. Other important agronomic enterprises include beef cattle; swine; row crops, such as corn; and wheat and other small grain. Tobacco has been an important cash crop in the county. Alfalfa is an important hay crop for the dairy enterprises. In recent years, horse farms and poultry operations have been established in many areas of the county.

In 1929, the University of Tennessee established the Dairy Experiment Station, south of Lewisburg (Marshall County Historical Society 1986). The station conducts research on various aspects of dairy farming and maintains a large herd of registered Jersey cows.

One of the first major nonagricultural industries to enter Marshall County was the pencil industry. In 1894, The American Lead Pencil Company opened a saw mill and a slat mill (Marshall County Historical Society 1986). The pencil industry is still thriving today. Several other nonagricultural industries are located in the county. They include metal casting and manufacturers of heating and air conditioning units, plastic products, containers, electronics, cosmetics, and automotive parts.

Transportation facilities are throughout the county. They include U.S. Highways 31A and 431; State Highways 373, 272, 99, and 129; and numerous county roads. One railroad provides rail transportation service. It runs north and south and passes through the communities of Chapel Hill, Lewisburg, and Cornersville.

Physiography, Relief, and Drainage

Marshall County lies in the Nashville Basin physiographic region. The northern two-thirds of the county is in the inner portion of the basin, and the southern third is in the outer portion. There are also remnants of the Highland Rim geological formation on the ridgetops in the southern part of the county.

The landscape in the northern two-thirds of the county is dominantly nearly level or gently sloping. The landscape in the southern third of the county is highly dissected by steep, narrow ridges.

A dendritic drainage pattern is exhibited throughout the county. It is very pronounced in the southern part, where the streams are actively downcutting into the remnant ridges of the Highland Rim. The Duck River is the main drainage outlet for the northern two-thirds of the county. Richland Creek and Cane Creek drain most of the southern part.

Climate

In Marshall County, summers are hot in valleys and are only slightly cooler in the hills. Winters are moderately cold throughout the county. Rainfall is fairly heavy and is well distributed throughout the year. Snow falls nearly every winter, but the snow cover generally lasts only a few days.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Lewisburg, Tennessee, in the period 1951 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 39 degrees F and the average daily minimum temperature is 27 degrees. The lowest temperature on record, which occurred on January 21, 1985, is -20 degrees. In summer, the average temperature is 76 degrees and the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred on July 29, 1952, is 107 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 about 54 inches. Of this, about 20 inches, or 37 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10,

the rainfall in April through September is less than 26 inches. The heaviest 1-day rainfall during the period of record was 8 inches on March 27, 1960. Thunderstorms occur on about 53 days each year, and most occur in summer. At any time of the year, heavy rains from prolonged storms can occasionally occur throughout the survey area and can cause severe flooding in valleys.

The average seasonal snowfall is 5 inches. The greatest snow depth at any one time during the period of record was 13 inches. On the average, 2 days of the year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 84 percent. The sun shines 61 percent of the time possible in summer and 44 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in spring.

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. Harpeth-Arrington-Waynesboro

Undulating or rolling, well drained soils formed in recent alluvium or in older alluvium and the underlying limestone residuum; on flood plains and high stream terraces along the Duck River

This map unit runs east and west through the northern part of the county, along the Duck River. The landscape consists of undulating or rolling high stream terraces and nearly level flood plains. The high stream terraces are characterized by numerous sinkholes and depressions. The flood plains are frequently flooded for very brief periods of time. Several nearly vertical bluffs are along the Duck River, which is about 50 to 100 feet wide as it flows through the county.

This unit makes up about 5 percent of the survey area. It is about 51 percent Harpeth soils, 25 percent Arrington soils, 18 percent Waynesboro soils, and 6 percent soils of minor extent (fig. 2).

The Harpeth soils are well drained, have a loamy subsoil, and are very deep to hard bedrock. They are dominantly on undulating or rolling hilltops and in depressions. The Harpeth soils are commonly in the smoother areas on the landscape, while the Waynesboro soils are on the higher, more dissected hilltops. In some areas the Harpeth soils are intermingled with areas of the Waynesboro soils. Slopes range from 2 to 12 percent.

The Arrington soils are well drained, have a loamy subsoil, and are very deep to hard bedrock. They are on nearly level, narrow flood plains along the Duck River and its tributaries. They are adjacent to the Waynesboro and Harpeth soils, which are on the high stream terraces above the flood plains. Slopes are 0 to 2 percent.

The Waynesboro soils are well drained, have a clayey subsoil, and are very deep to hard bedrock. They are on undulating or rolling stream terraces. The Waynesboro soils generally are higher on the landscape than the Harpeth soils, but in some areas they are intermingled with areas of the Harpeth soils. Slopes range from 2 to 12 percent.

Of minor extent in this unit are Egam soils on the flood plains, Armour soils on the low stream terraces, and Talbott and Braxton soils in the uplands. The minor soils are intermingled with areas of the Harpeth and Waynesboro soils. Some areas have outcrops of bedrock.

This unit is used primarily for pasture and hay. Some row crops are grown in areas on the terraces. Areas with outcrops of bedrock are commonly used as woodland. Most residential sites and roads are in scattered areas in the higher positions on the landscape. Some roads along the river may be flooded at times.

The Waynesboro and Harpeth soils are well suited to cropland, hay, and pasture. Erosion is a hazard on the steeper slopes when the soils are cultivated or pastures are overgrazed. The Arrington soils are subject to frequent flooding.

The Waynesboro and Harpeth soils are well suited to residential and commercial development in the less sloping areas and moderately suited in the steeper areas. The Arrington soils are unsuited to these uses because of the flooding.

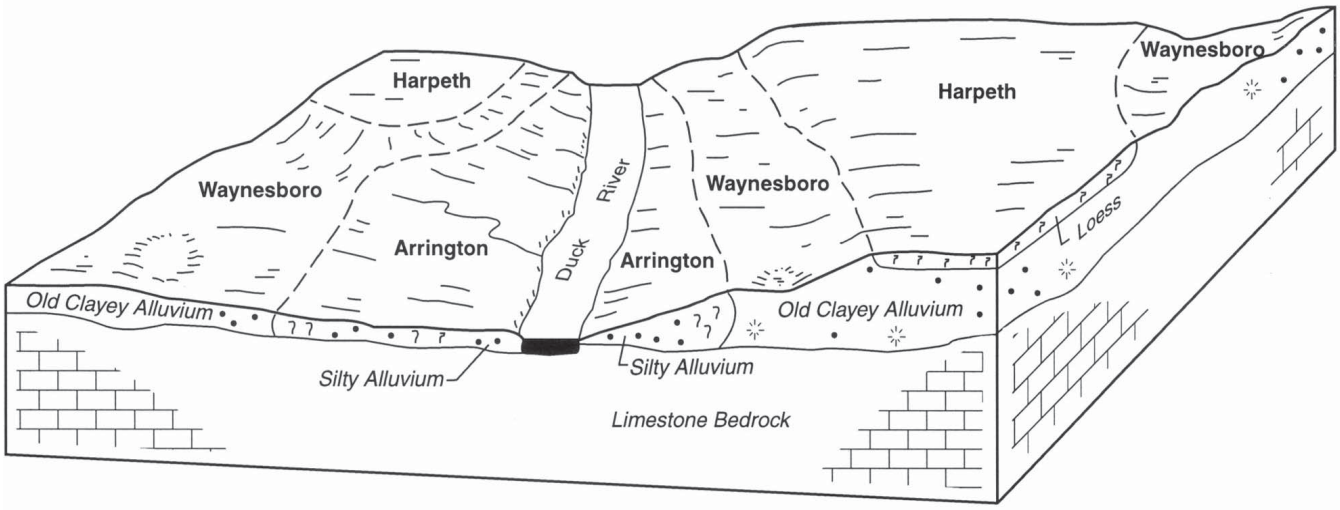

Figure 2.—Typical pattern of soils and underlying material in the Harpeth-Arrington-Waynesboro general soil map unit.

2. Talbott-Rock Outcrop-Gladeville

Rock outcrop and undulating or rolling, well drained soils formed in limestone residuum; on uplands

This map unit is dominantly in the northern half of the county. The general drainage pattern is dendritic. Sinkholes, which are common in this unit, remove some of the surface water. Slopes range from 2 to 15 percent.

This unit makes up about 25 percent of the survey area. It is about 34 percent Talbott soils, 17 percent Rock outcrop, 9 percent Gladeville soils, and 40 percent soils of minor extent (fig. 3).

The Talbott soils are well drained, have a clayey subsoil, and are moderately deep to hard bedrock. They are on undulating or rolling uplands. The Talbott soils are on the higher ridges of the landscape, above the Gladeville soils. Slopes range from 2 to 15 percent.

Outcrops of limestone bedrock are common throughout this unit; however, they do not occur in some areas of the Talbott soils. The outcrops of bedrock range from nearly level with the surface to massive, rounded boulders and ledges that extend from a few inches to several feet above the surface.

The Gladeville soils are well drained, have a clayey subsoil, and are very shallow to bedrock. They are on undulating or rolling uplands. The Gladeville soils are on the lower parts of the landscape, below the Talbott soils. Slopes range from 2 to 15 percent.

Of minor extent in this unit are Bradyville and Braxton soils in the uplands and Egam, Eagleville, and Godwin soils in the drainageways.

Most of this unit is used as woodland or unimproved pasture. Areas that are dominated by the Rock outcrop are used mostly as woodland. Red cedar, hickory, hackberry, and oak are common woodland species in this unit. Many areas that were previously used as pasture have reverted to woodland. Areas on the lower slopes with few outcrops of bedrock are generally used as pasture. They are also used as sites for houses or other buildings.

Most of this unit is poorly suited to cropland, hay, and pasture. The Talbott soils are moderately suited to crops if they do not include areas of Rock outcrop. The Rock outcrop limits the acreage available for production and interferes with management operations. The available water capacity is low or very low in this unit. Erosion is a hazard when pastures are overgrazed.

Most of this unit is poorly suited to residential and commercial development; however, the Talbott soils are moderately suited to some types of construction. The depth to bedrock, the Rock outcrop, and a shrink-swell potential are major limitations.

3. Talbott-Braxton-Rock Outcrop

Rock outcrop and undulating or rolling, well drained soils formed in limestone residuum; on uplands

This map unit is dominantly in the northern half of the county. The landscape generally is undulating or rolling but is moderately steep in some areas. Sinkholes and slight depressions are common

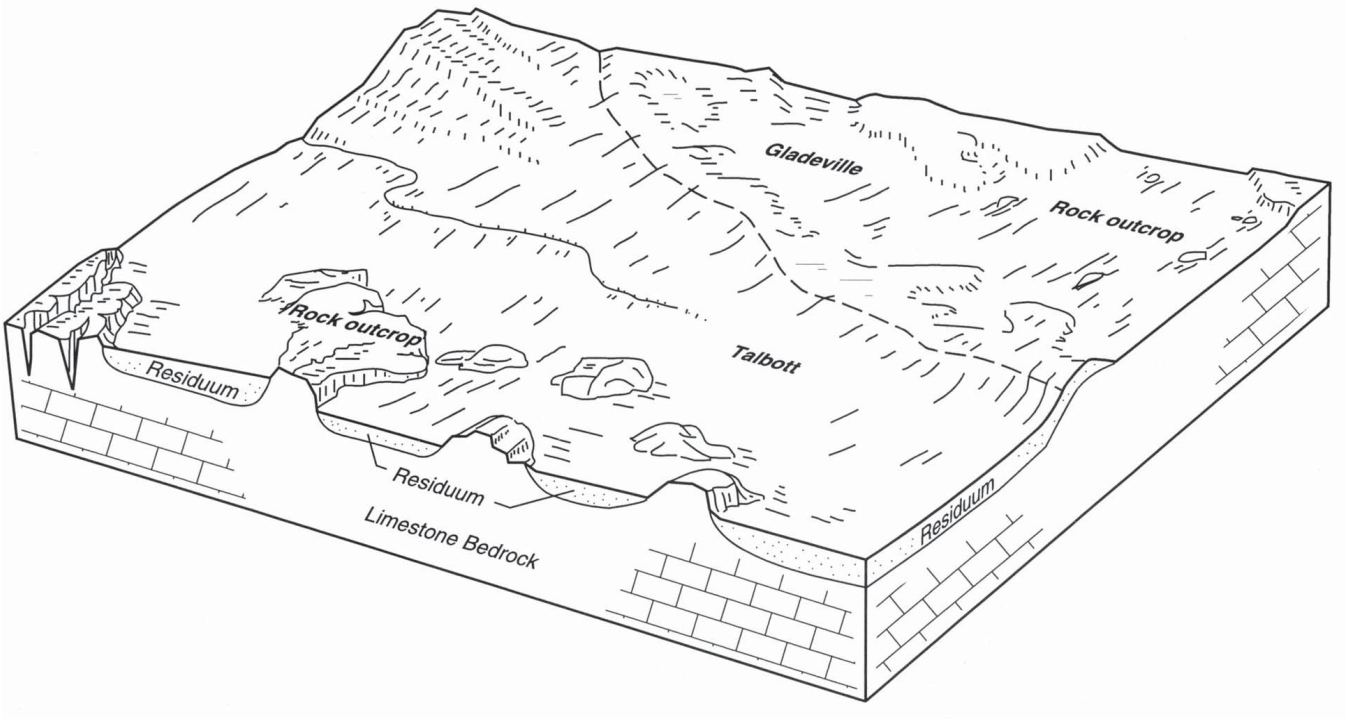

Figure 3.—Typical pattern of soils and underlying material in the Talbott-Rock outcrop-Gladeville general soil map unit.

features on the landscape. The general drainage pattern is dendritic; however, sinkholes remove some of the surface water. Slopes range from 2 to 15 percent.

This unit makes up about 26 percent of the county. It is about 40 percent Talbott soils, 24 percent Braxton soils, 9 percent Rock outcrop, and 27 percent soils of minor extent (fig. 4).

The Talbott soils are well drained, have a clayey subsoil, and are moderately deep to hard limestone bedrock. They are on undulating or rolling uplands. The Talbott soils are intermingled with areas of the Braxton soils in places. Slopes range from 2 to 15 percent.

The Braxton soils are well drained, have a clayey subsoil, and are very deep to hard limestone bedrock. They are on undulating or rolling uplands. They are generally on hilltops. Slopes range from 2 to 12 percent.

Outcrops of limestone bedrock are characteristic of this unit. Most areas have numerous outcrops of bedrock, but some areas have no outcrops. The outcrops of bedrock range from nearly level with the surface to massive, rounded boulders and ledges that extend from a few inches to several feet above the surface.

Of minor extent in this unit are Bradyville and Nesbitt soils in the uplands; Capshaw soils on terraces and upland flats; and Eagleville, Egam, and Tupelo soils in the drainageways.

Most of this unit is used as woodland or pasture. Areas that are dominated by the Rock outcrop are used as woodland. Red cedar, hickory, hackberry, and oak are common woodland species in this unit. Many areas that were previously used as pasture are being allowed to revert to woodland by landowners because of the difficulty in managing the pasture. Areas on the lower slopes with few areas of Rock outcrop are used as pasture. They are also used as sites for dwellings and commercial buildings.

The Braxton soils are well suited and the Talbott soils are suited to cropland, hay, and pasture if they do not include areas of Rock outcrop. The depth to bedrock and available water capacity are the most limiting factors. Areas with numerous outcrops of bedrock are poorly suited to cropland and hay. The Rock outcrop interferes with tillage and forage operations. Erosion is a hazard when the soils are cultivated or when pastures are overgrazed.

The Braxton soils are suited to residential and commercial development. The Talbott soils are only moderately deep to bedrock, which limits excavation and construction activities. This unit is poorly suited to building site development in areas of Rock outcrop. The shrink-swell potential is a limitation affecting the construction of structures and roads.

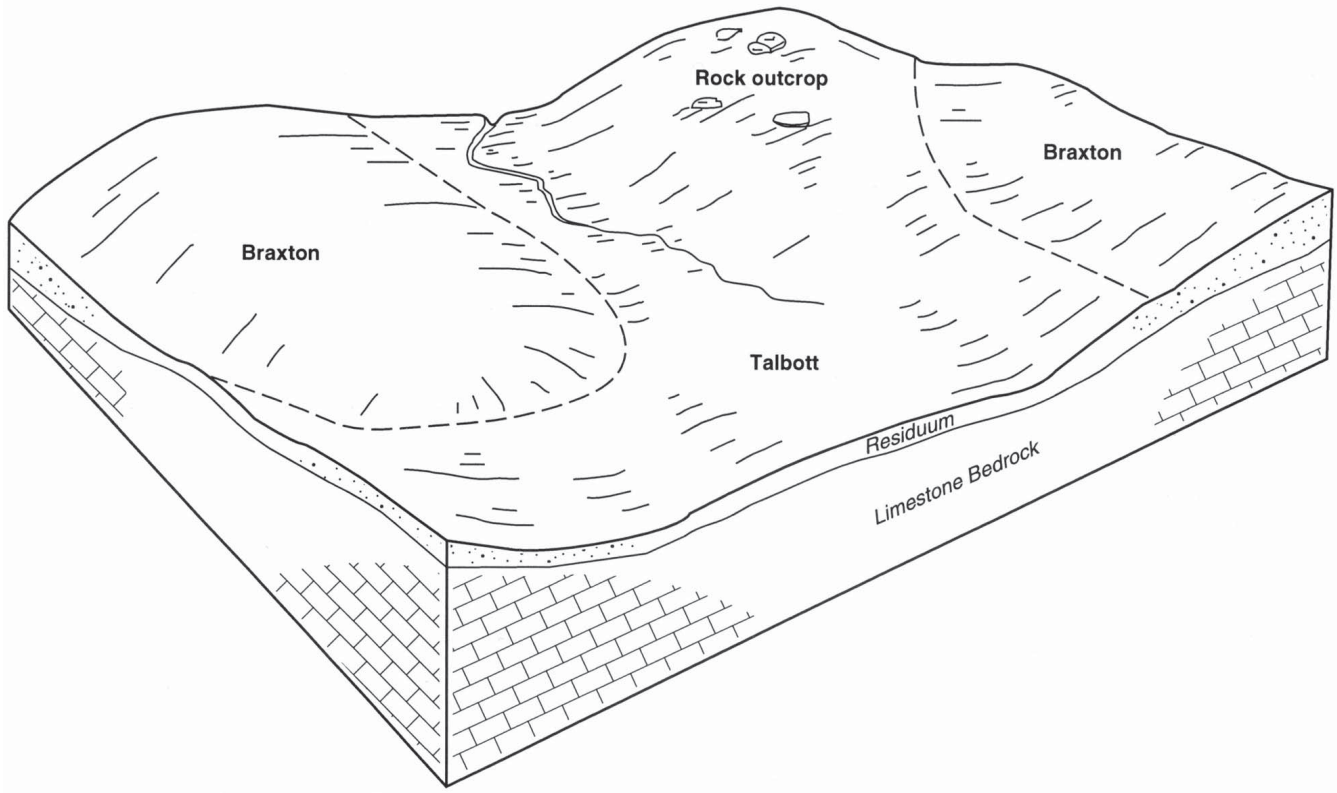

Figure 4.—Typical pattern of soils and underlying material in the Talbott-Braxton-Rock outcrop general soil map unit.

4. Hawthorne-Dellrose-Mimosa

Rolling to steep, well drained or somewhat excessively drained soils that formed in residuum and colluvium derived from siltstone and limestone; on uplands

This map unit is dominantly in the southern half of the county. The landscape is characterized by prominent relief consisting of highly dissected hillsides and rolling ridgetops (fig. 5). The ridgetops are long, narrow, and winding. The landscape is dissected by numerous intermittent streams. Slopes range from 5 to 55 percent.

This unit makes up about 10 percent of the survey area. It is about 64 percent Hawthorne soils, 28 percent Dellrose soils, 4 percent Mimosa soils, and 4 percent soils of minor extent (fig. 6).

The Hawthorne soils are somewhat excessively drained, have a loamy subsoil, and are moderately deep to soft bedrock. They are on narrow, rolling ridgetops and the upper part of steep hillsides. Slopes range from 5 to 55 percent.

The Dellrose soils are well drained, have a loamy subsoil, and are very deep to hard bedrock. In some areas they are clayey in the lower part of the subsoil. The Dellrose soils are on rolling to steep hillsides and footslopes. They are commonly in landscape positions below those of the Hawthorne soils. Slopes range from 5 to 45 percent.

The Mimosa soils are well drained, have a clayey subsoil, and are deep to hard bedrock. They are on rolling to steep footslopes and hillsides. The Mimosa soils are generally lower on the landscape than the Hawthorne and Dellrose soils. Slopes range from 5 to 35 percent.

Of minor extent in this unit are Ashwood and Barfield soils in the uplands and Armour soils on footslopes near narrow drainageways.

This unit is mostly used as woodland. Some of the hillsides and ridgetops in the unit have been cleared. The cleared hillsides are used as pasture, and the cleared ridgetops are used as pasture or for tobacco production. Dwellings and roads are mainly on the ridgetops and in narrow valleys.

Most of this unit is poorly suited to row crops and pasture. The slope, the depth to bedrock, and a limited available water capacity are the main management concerns. The Hawthorne soils on hilltops are suited to pasture and hay if the grasses and legumes selected for planting are those that can tolerate

Figure 5.—A typical landscape in the Hawthorne-Dellrose-Mimosa general soil map unit. The Hawthorne soils on the ridgetops and the Dellrose soils on the side slopes are best suited to woodland and pasture. The Mimosa soils on the lower side slopes are generally covered with upland hardwoods, such as eastern redcedar, oak, and hickory, unless the area has been cleared for use as pasture.

droughtiness. Yields are reduced because of the limited available water capacity and a restricted rooting depth.

Most of this unit is poorly suited to residential and commercial development. The slope, the depth to bedrock, and a high shrink-swell potential are the major management concerns. Slippage and seepage on side slopes are additional limitations on steep slopes in areas of the Hawthorne and Dellrose soils.

5. Hampshire-Stiversville-Marsh

Undulating to steep, well drained soils formed in residuum derived from limestone interbedded with siltstone, shale, and sandy limestone; on uplands

This map unit is dominantly in the central part of the county. It is in an area that runs from the community of Mooresville in the west, to the community of Belfast in the east. The landscape is highly dissected with smooth, undulating hilltops and moderately steep or steep hillsides. Slopes are short and steep in some areas adjacent to streams. Most streams in this unit are small and intermittent; however, there are a few perennial streams in the larger watersheds. Slopes range from 2 to 35 percent.

This unit makes up about 15 percent of the survey area. It is about 24 percent Hampshire soils, 18 percent Stiversville soils, 8 percent Marsh soils, and 50 percent soils of minor extent.

The Hampshire soils are well drained, have a clayey subsoil, and are deep to soft bedrock. They are on smooth, undulating or rolling hilltops and footslopes and on moderately steep hillsides. The Hampshire soils are intermingled with areas of the Stiversville soils in many places. Slopes range from 2 to 20 percent.

The Stiversville soils are well drained, have a loamy

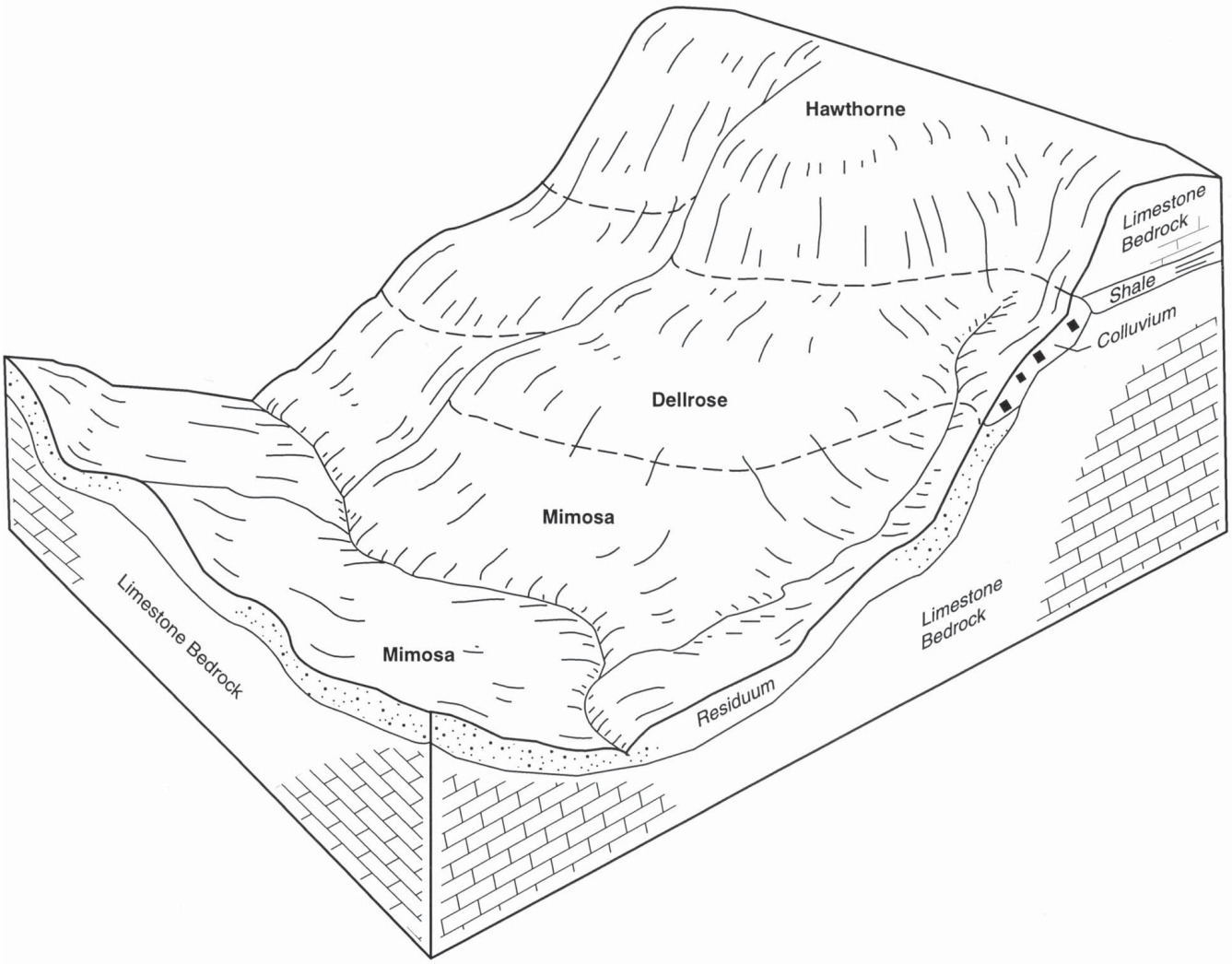

Figure 6.—Typical pattern of soils and underlying material in the Hawthorne-Dellrose-Mimosa general soil map unit.

subsoil, and are deep to soft bedrock. They are on smooth, undulating or rolling hilltops and footslopes and on steep hillsides. Slopes range from 2 to 30 percent.

The Marsh soils are well drained, have a loamy subsoil, and are moderately deep to soft bedrock. They are on moderately steep hilltops and steep hillsides. The Marsh soils are intermingled with areas of the Hampshire and Stiversville soils. Slopes range from 15 to 35 percent.

Of minor extent in this unit are Talbott soils in the lower landscape positions on uplands; Armour soils on footslopes and terraces; Arrington and Lindell soils on flood plains; and Mimosa, Ashwood, and Barfield soils in the higher landscape positions on uplands.

This unit is mostly cleared. It is used mainly for hay or pasture or, in some of the less sloping areas, as cropland. Dwellings are generally in the less sloping areas. Some of the soils on steep hillsides are used as woodland.

In the less sloping areas, the Hampshire and Stiversville soils are well suited to cropland, pasture, and hay. The slope, the erosion hazard, and a limited available water capacity are the main management concerns. Conservation practices, such as no-till planting, and contour stripcropping help to control erosion in the unit.

The Stiversville soils in the less sloping areas are well suited to residential and commercial development. The Hampshire soils in the less sloping areas are only suited to these uses. They are limited by the shrink-swell potential in the subsoil and by the depth to bedrock. The Stiversville and Hampshire soils

on the steeper slopes are poorly suited to residential and commercial development. The Marsh soils are severely limited as a site for buildings because of the slope and the depth to bedrock.

6. Mimosa-Ashwood-Rock Outcrop

Rock outcrop and rolling to steep, well drained soils formed in limestone residuum; on uplands

The soils in this map unit are dominantly in the southern half of the county. The landscape is characterized by discontinuous ridges and isolated, knoblike hills with long, moderately steep and steep hillsides and rounded, convex hilltops. Deep, narrow valleys and drainageways are between the hillsides and knobs. The landscape is highly dissected by small, intermittent streams and a few perennial streams in a dendritic drainage pattern. Slopes range from 5 to 40 percent.

This unit makes up about 19 percent of the survey area. It is about 35 Mimosa soils, 17 percent Ashwood soils, 11 percent Rock outcrop, and 37 percent soils of minor extent (fig. 7).

The Mimosa soils are well drained, have a clayey subsoil, and are deep to hard bedrock. They are on rolling ridgetops and footslopes and steep hillsides. The Mimosa soils are intermingled with areas of the Ashwood soils. They have numerous outcrops of limestone bedrock in some areas. Slopes range from 5 to 35 percent.

The Ashwood soils are well drained, have a clayey subsoil, and are moderately deep to hard bedrock. They are on rolling hilltops and steep hillsides. The Ashwood soils are intermingled with areas of the Mimosa soils. They have numerous outcrops of limestone bedrock in most areas. Slopes range from 5 to 40 percent.

Outcrops of limestone bedrock are in most areas of this unit. They range from nearly level with the surface to massive, rounded boulders and ledges that extend from a few inches to several feet above the soil surface.

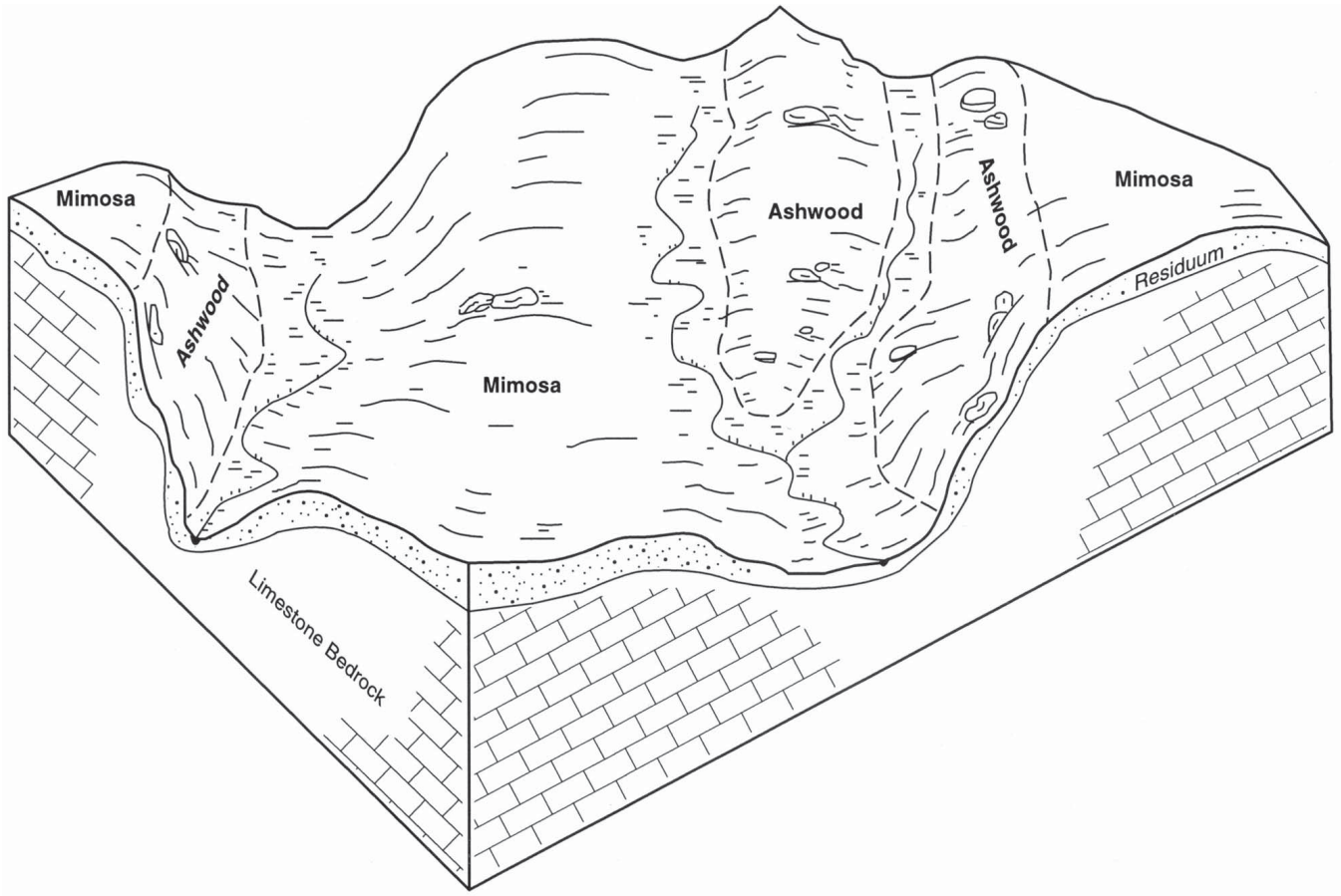

Figure 7.—Typical pattern of soils and underlying material in the Mimosa-Ashwood-Rock outcrop general soil map unit.

Of minor extent in this unit are Barfield, Dellrose, and Hampshire soils in the uplands; Armour soils on the footslopes and terraces; and Lindell and Arrington soils in the drainageways.

Most of the areas that include Rock outcrop are used as woodland, but some areas are cleared and used as pasture. A few narrow strips on hilltops, benches, and footslopes and along drainageways are used for the production of tobacco or corn or for vegetable gardens. Many areas that were previously cleared and used for pasture or row crops have been allowed to revert to brush and woodland. Most roads, farmsteads, and developed areas are in the valleys.

Most areas of this unit are poorly suited to cropland and pasture because of the steep slopes, the Rock outcrop, and a limited available water capacity. The less sloping areas of the Mimosa soils can be used as cropland or pasture if erosion-control practices are applied.

Most of this unit is poorly suited to residential and commercial development. The depth to bedrock, the Rock outcrop, the slope, a shrink-swell potential, and the restricted permeability are severe limitations.

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 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 "included" areas that belong to other taxonomic classes.

Most included 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, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. 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 included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas 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 included areas 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, Bradyville silt loam, 2 to 5 percent slopes, eroded, is a phase of the Bradyville series.

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

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. Ashwood-Mimosa-Rock outcrop complex, 5 to 15 percent slopes, is an example.

An *association* is made up of two or more

geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Hawthorne and Dellrose association, 25 to 55 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The map unit Pits, quarries, 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.

AmB—Armour silt loam, 2 to 5 percent slopes

Composition

Armour soil and similar components: 95 percent
Contrasting components: 5 percent

Setting

Landscape position: Stream terraces and footslopes
Size of areas: 5 to 120 acres
Parent material: Old alluvium; alluvium over clayey residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Moderately acid or strongly acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
7 to 16 inches—yellowish brown silt loam
16 to 65 inches—yellowish brown silty clay loam

Inclusions

- Soils that are less than 60 inches deep over bedrock
- Moderately well drained soils
- Dellrose soils on footslopes

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, crop residue management, and other measures that maintain organic matter content and help to control erosion also conserve moisture.
- Grassed waterways, cover crops, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Well suited
Management considerations:
- Few limitations affect building site development.
- Low strength is a limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- Increasing the size of septic tank absorption fields helps to overcome the restricted permeability in the subsoil.

Interpretive Groups

Land capability classification: 2e

AmC2—Armour silt loam, 5 to 12 percent slopes, eroded

Composition

Armour soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Stream terraces and footslopes
Size of areas: 5 to 70 acres
Parent material: Old alluvium; alluvium over clayey residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Moderately acid or strongly acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
4 to 16 inches—yellowish brown silt loam
16 to 65 inches—yellowish brown silty clay loam

Inclusions

- Soils that are less than 60 inches deep over bedrock
- Moderately well drained soils
- Dellrose soils on footslopes

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Suited
Management considerations:
- This soil is suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, contour farming, contour stripcropping, grassed waterways, cover crops, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Well suited
Management considerations:
- Few limitations affect building site development.
- Low strength is a limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- Increasing the size of septic tank absorption fields helps to overcome the restricted permeability in the subsoil.
- Installing distribution lines for septic tank absorption fields on the contour helps to overcome the slope.

Interpretive Groups

Land capability classification: 3e

Ar—Arrington silt loam, frequently flooded

Composition

Arrington soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Flood plains
Size of areas: 5 to 150 acres
Slope range: 0 to 2 percent
Parent material: Silty alluvium

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: Frequency—frequent; duration—very brief
Available water capacity: High
Seasonal high water table: At a depth of 4 to 6 feet from January through March
Soil reaction: Slightly acid to slightly alkaline
Depth to bedrock: More than 60 inches

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 25 inches—very dark grayish brown silt loam
25 to 36 inches—dark brown silt loam
36 to 60 inches—brown silt loam

Inclusions

- Lindell soils in low swales and in areas adjacent to steep upland hillsides
- Soils that have more than 15 percent coarse fragments

Use and Management

Major use: Hay (fig. 8)
Common woodland vegetation: Bottom-land hardwoods

Cropland

Suitability: Suited
Management considerations:
- The frequent flooding can delay planting and interfere with harvesting of crops.
- Perennial and some annual crops are damaged by floodwater in some years.

Pasture and hay

Suitability: Well suited
Management considerations:
- This soil has slight limitations if used for forage crops.
- Only hay and pasture plants that can tolerate the periodic inundation by floodwater should be selected for seeding.

Building site development

Suitability: Unsuited

Figure 8.—A flooded area of Arrington silt loam, frequently flooded. This soil is best suited to pasture and hay, which provide a protective plant cover that helps to control erosion.

Management considerations:
- This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for septic tank absorption fields because of the flooding.

Interpretive Groups

Land capability classification: 3w

AsC—Ashwood-Mimosa-Rock outcrop complex, 5 to 15 percent slopes

Composition

Ashwood soil and similar components: 50 percent
Mimosa soil and similar components: 35 percent
Rock outcrop: 15 percent

Setting

Landscape position: Upland ridgetops and hillsides
Size of areas: 5 to 200 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Ashwood

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches

Mimosa

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid to moderately acid, except the layer directly above the bedrock ranges to slightly alkaline
Depth to bedrock: 40 to 60 inches

Typical Profile

Ashwood

Surface layer:
0 to 6 inches—very dark grayish brown silty clay loam

Subsoil:
6 to 11 inches—very dark grayish brown silty clay
11 to 25 inches—yellowish brown clay

Bedrock:
25 inches—limestone

Mimosa

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Barfield soils

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
- The Rock outcrop severely restricts tillage.
- The slope and the limited available water capacity are the main management concerns.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The Rock outcrop increases the difficulty of operating equipment in areas managed for forage.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soils and forage in good condition.

• Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.
• The high shrink-swell potential is a severe limitation on sites for building foundations.
• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• The slope is a limitation on sites for most structures.
• In areas where there is a large volume of bedrock, the cost of overcoming the slope is prohibitive.
• This unit is poorly suited to local roads and streets because of low strength and the Rock outcrop.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• The depth to bedrock and the Rock outcrop make installation of most systems difficult.
• Because of the restricted permeability in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 6s

AsE—Ashwood-Mimosa-Rock outcrop complex, 15 to 35 percent slopes

Composition

Ashwood soil and similar components: 50 percent
Mimosa soil and similar components: 35 percent
Rock outcrop: 15 percent

Setting

Landscape position: Upland hillsides
Size of areas: 10 to 300 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Ashwood

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches

Mimosa

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid, except the layer directly above the bedrock ranges to slightly alkaline
Depth to bedrock: 40 to 60 inches

Typical Profile

Ashwood

Surface layer:
0 to 6 inches—very dark grayish brown silty clay loam

Subsoil:
6 to 11 inches—very dark grayish brown silty clay
11 to 25 inches—yellowish brown clay

Bedrock:
25 inches—limestone

Mimosa

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

• Soils that are more than 60 inches deep over bedrock
• Barfield soils

Use and Management

Major use: Woodland
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- The Rock outcrop severely restricts tillage.
- The slope and the limited available water capacity are the main management concerns.
- The hazard of erosion on steep slopes is a management concern when row crops are grown.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The Rock outcrop increases the difficulty of operating equipment in areas used for forage.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soils and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The high shrink-swell potential is a severe limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- The slope is a limitation on sites for most structures.
- In areas where there is a large volume of bedrock, the cost of overcoming the slope is prohibitive.
- Low strength and the steep slope are severe limitations on sites for local roads and streets.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The soils in this unit have restricted permeability.
- Because of the restricted permeability in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7s

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

Composition

Barfield soil and similar components: 50 percent
Ashwood soil and similar components: 30 percent
Rock outcrop: 20 percent

Setting

Landscape position: Upland ridgetops
Size of areas: 5 to 180 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Barfield

Drainage class: Well drained to excessively drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Slightly acid to slightly alkaline
Depth to bedrock: 8 to 20 inches

Ashwood

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches

Typical Profile

Barfield

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

Subsoil:
3 to 10 inches—very dark grayish brown clay
10 to 14 inches—dark yellowish brown clay

Bedrock:
14 inches—limestone

Ashwood

Surface layer:
0 to 6 inches—very dark grayish brown silty clay loam

Subsoil:
6 to 11 inches—very dark grayish brown silty clay
11 to 25 inches—yellowish brown clay

Bedrock:
25 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Mimosa soils

Use and Management

Major use: Woodland
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- The Rock outcrop prohibits tillage.
- The depth to bedrock and the limited available water capacity are management concerns.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The Rock outcrop increases the difficulty of operating equipment in areas used for forage.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation on sites for shallow excavations and dwellings with basements.
- The high shrink-swell potential is a severe limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is poorly suited to local roads and streets because of the Rock outcrop, the high shrink-swell potential, and low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a severe limitation on sites for septic tank absorption fields.
- The soils in this unit have restricted permeability.
- Because of the restricted permeability in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 6s

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

Composition

Barfield soil and similar components: 50 percent
Ashwood soil and similar components: 30 percent
Rock outcrop: 20 percent

Setting

Landscape position: Upland hillsides
Size of areas: 5 to 340 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Barfield

Drainage class: Well drained to excessively drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Slightly acid to slightly alkaline
Depth to bedrock: 8 to 20 inches

Ashwood

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches

Typical Profile

Barfield

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

Subsoil:
3 to 10 inches—very dark grayish brown clay
10 to 14 inches—dark yellowish brown clay

Bedrock:
14 inches—limestone

Ashwood

Surface layer:
0 to 6 inches—very dark grayish brown silty clay loam

Subsoil:
6 to 11 inches—very dark grayish brown silty clay
11 to 25 inches—yellowish brown clay

Bedrock:
25 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Mimosa soils

Use and Management

Major use: Woodland
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- The Rock outcrop prohibits tillage.
- The depth to bedrock and the limited available water capacity are the main management concerns.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The Rock outcrop and the steep slopes increase the difficulty of operating equipment in areas used for forage.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soils and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope is a severe limitation on sites for most structures.
- The depth to bedrock is a limitation on sites for shallow excavations and dwellings with basements.
- The high shrink-swell potential is a severe limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This unit is poorly suited to local roads and streets because of the Rock outcrop, the high shrink-swell potential, and low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Permeability is restricted in this unit.
- The depth to bedrock and the slope are severe limitations.
- Because of the restricted permeability and the slope in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7s

BrB2—Bradyville silt loam, 2 to 5 percent slopes, eroded

Composition

Bradyville soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 120 acres
Parent material: Limestone residuum or a thin, silty mantle underlain by limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid, except the layer directly above the bedrock ranges to slightly alkaline

Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
5 to 9 inches—strong brown silt loam
9 to 48 inches—yellowish red clay

Bedrock:
48 inches—hard limestone

Inclusions

- Braxton soils
- Talbott soils

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
- The moderate depth to bedrock is a limitation affecting excavation.
- The high shrink-swell potential is a moderate limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 2e

BrC2—Bradyville silt loam, 5 to 12 percent slopes, eroded

Composition

Bradyville soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 120 acres
Parent material: Limestone residuum or in a thin, silty mantle underlain by limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid, except the layer directly above the bedrock ranges to slightly alkaline
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
5 to 9 inches—strong brown silt loam
9 to 48 inches—yellowish red clay

Bedrock:
48 inches—hard limestone

Inclusions

- Braxton soils
- Talbott soils
- Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
- This soil is suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
- The moderate depth to bedrock is a limitation affecting excavation.
- The high shrink-swell potential is a moderate limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.
- Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 3e

BtB2—Braxton silt loam, 2 to 5 percent slopes, eroded

Composition

Braxton soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 350 acres
Parent material: Old valley fill or limestone residuum, or both

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 29 inches—red silty clay
29 to 41 inches—yellowish red clay
41 to 57 inches—strong brown clay
57 to 74 inches—strong brown and dark red clay

Inclusions

- Capshaw soils
- Bradyville and Talbott soils
- Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
- The moderate available water capacity and the hazard of erosion are management concerns in areas used for crops.
- Minimum tillage, crop residue management, and other measures that help to maintain the organic matter content and reduce the rate of runoff also conserve moisture.

• Contour farming, grassed waterways, cover crops, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Suited
Management considerations:
• The high shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.
• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• This soil is severely limited as a site for local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 2e

BtC2—Braxton silt loam, 5 to 12 percent slopes, eroded

Composition

Braxton soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 200 acres
Parent material: Old valley fill and limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 29 inches—red silty clay
29 to 41 inches—yellowish red clay
41 to 57 inches—strong brown clay
57 to 74 inches—strong brown and dark red clay

Inclusions

• Soils that are moderately well drained
• Bradyville and Talbott soils
• Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
• The slope, the hazard of erosion, and the limited available water capacity are the main management concerns.
• Minimum tillage, crop residue management, and other measures that help to maintain the organic matter content and reduce the rate of runoff also conserve moisture.
• Contour farming, contour stripcropping, grassed waterways, cover crops, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Suited
Management considerations:
• The high shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.

- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 3e

BxC2—Braxton-Talbott-Rock outcrop complex, 2 to 12 percent slopes, eroded

Composition

Braxton soil and similar components: 50 percent
Talbott soil and similar components: 25 percent
Rock outcrop: 20 percent
Contrasting components: 5 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 450 acres
Slope range: 2 to 12 percent
Parent material: Limestone residuum

Soil Properties and Qualities

Braxton

Drainage class: Well drained
Permeability: Slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid
Depth to bedrock: More than 60 inches

Talbott

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

Braxton

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

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 29 inches—red silty clay
29 to 41 inches—yellowish red clay
41 to 57 inches—yellowish brown clay
57 to 74 inches—mottled yellowish brown and dark red clay

Talbott

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Soils that have a loamy subsoil
- Soils that are less than 20 inches deep over bedrock
- Bradyville soils

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- The Rock outcrop severely restricts tillage.
- The slope and the low or moderate available water capacity are the main management concerns.

Pasture and hay

Suitability: Suited
Management considerations:
- The Rock outcrop increases the difficulty of operating equipment in areas used for forage.
- Overgrazing reduces the extent of the plant cover,

increases the hazard of erosion, and results in the growth of weeds.
• A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soils and forage in good condition.
• Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Suited
Management considerations:
• The depth to bedrock is a limitation on sites for shallow excavations and dwellings with basements.
• The high shrink-swell potential in the subsoil is a severe limitation on sites for building foundations.
• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• This unit is poorly suited to local roads and streets because of the Rock outcrop, the high shrink-swell potential, and low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• In some areas the depth to bedrock and the Rock outcrop make installation of systems difficult.
• Because of the restricted permeability in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 6s

CaB—Capshaw silt loam, 2 to 5 percent slopes

Composition

Capshaw soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Stream terraces
Size of areas: 5 to 200 acres
Parent material: Clayey alluvium or a thin mantle of silty alluvium underlain by clayey residuum

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: At a depth of 2.0 to 3.5 feet from December through March
Soil reaction: Moderately acid or strongly acid in the upper part of the profile; ranges from moderately acid to slightly alkaline in the lower part
Depth to bedrock: 40 to 80 inches

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown silt loam

Subsoil:
9 to 34 inches—yellowish brown clay
34 to 57 inches—strong brown clay

Bedrock:
57 inches—limestone

Inclusions

• Talbott soils
• Somewhat poorly drained soils
• Bradyville soils

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Well suited
Management considerations:
• This soil is well suited to most of the climatically adapted crops grown in the county.
• The moderate available water capacity is the main management concern.
• Because of the clayey subsoil, plants grown on this soil become stressed during periods of drought.

Pasture and hay

Suitability: Well suited
Management considerations:
• Growing deep-rooted crops in areas of this soil is limited by the wetness.
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.

• The high shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.
• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• Installing a drainage system around buildings and land shaping so that surface water flows away from structures help to overcome the wetness.
• This soil is severely limited as a site for local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• The seasonal high water table and the restricted permeability in the subsoil are severe limitations on sites for septic tank absorption systems.
• An area of a better drained, more permeable soil should be selected, or an alternative system should be considered.

Interpretive Groups

Land capability classification: 2e

DeC2—Dellrose gravelly silt loam, 5 to 12 percent slopes, eroded

Composition

Dellrose soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Colluvial benches and footslopes
Size of areas: 5 to 50 acres
Parent material: Gravelly colluvium or gravelly colluvium underlain by clayey residuum derived from limestone

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
3 to 10 inches—dark yellowish brown gravelly silt loam
10 to 65 inches—strong brown gravelly silty clay loam

Inclusions

• Soils that have more than 35 percent gravel throughout the profile
• Soils that are clayey throughout the subsoil
• Soils that are less than 60 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
• Minimum tillage, contour farming, stripcropping, grassed waterways, cover crops, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• Erosion is a hazard if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Suited
Management considerations:
• Buildings should be designed so that they conform to the natural slope of the land.
• Sites for structures should be carefully selected because of the slope.

Septic tank absorption fields

Suitability: Suited
Management considerations:
• Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 3e

DeD2—Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded

Composition

Dellrose soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Hillsides and footslopes
Size of areas: 5 to 50 acres
Parent material: Gravelly colluvium or gravelly colluvium underlain by clayey residuum derived from limestone

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
3 to 10 inches—dark yellowish brown gravelly silt loam
10 to 65 inches—strong brown gravelly silty clay loam

Inclusions

- Soils that have more than 35 percent gravel throughout the profile
- Soils that are clayey throughout the subsoil

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
- Because of the slope and the hazard of erosion, this soil should not be used for row crops grown year after year.
- Chert fragments in the surface layer make tillage difficult.

Pasture and hay

Suitability: Suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Safe operation of farm machinery is difficult because of the slope.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope is a severe limitation on sites for most structures.
- The cost of overcoming the slope is prohibitive in some areas.
- Buildings should be designed so that they conform to the natural slope of the land.
- The slope is a limitation on sites for local roads and streets.
- Local roads and streets should be constructed on the contour or in the less sloping areas, or both.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The slope is a limitation on sites for septic tank absorption fields.
- Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 4e

DeE—Dellrose gravelly silt loam, 20 to 45 percent slopes

Composition

Dellrose soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 40 acres
Parent material: Gravelly colluvium or gravelly colluvium underlain by clayey residuum derived from limestone

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid

Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
7 to 14 inches—dark brown gravelly silt loam
14 to 20 inches—yellowish brown gravelly silty clay loam
20 to 28 inches—strong brown gravelly silty clay loam
28 to 65 inches—strong brown gravelly silty clay loam

Inclusions

- Soils that have more than 35 percent gravel throughout the profile
- Soils that are less than 60 inches deep over bedrock
- Mimosa soils

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- Because of the steep slope and the hazard of erosion, this soil should not be used as cropland.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Safe operation of farm machinery is very difficult because of the slope.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope is a severe limitation on sites for most structures.
- The cost of overcoming the slope is prohibitive in some areas.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The slope is a severe limitation.
- Distribution lines for septic tank systems should be installed in the less sloping areas.

Interpretive Groups

Land capability classification: 6e

Ea—Eagleville silty clay loam, frequently flooded

Composition

Eagleville soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Narrow flood plains
Size of areas: 5 to 50 acres
Slope range: 0 to 2 percent
Parent material: Clayey alluvium

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow
Flooding: Frequency—frequent; duration—very brief
Available water capacity: Low
Seasonal high water table: At a depth of 1.0 to 1.5 feet from December through April
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches

Typical Profile

Surface layer:
0 to 9 inches—very dark grayish brown silty clay loam

Subsoil:
9 to 16 inches—very dark gray silty clay
16 to 24 inches—dark grayish brown clay
24 to 27 inches—grayish brown clay

Bedrock:
27 inches—hard limestone

Inclusions

- Tupelo soils
- Soils that are less than 20 inches deep over bedrock
- Soils that are poorly drained
- Soils that are moderately well drained

Use and Management

Major use: Pasture
Common woodland vegetation: Bottom-land hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
• The flooding and the seasonal wetness are limitations affecting crop production.
• The flooding delays planting in spring and can interfere with harvesting in fall.
• Planting short-season annuals later in spring is recommended.

Pasture and hay

Suitability: Suited
Management considerations:
• Only hay and pasture plants that can tolerate the periodic inundation by floodwater and the seasonal wetness should be selected for seeding.
• Grazing when the soil is wet results in surface compaction and destruction of the sod.
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Unsuited
Management considerations:
• This soil is not suitable as a site for structures because of the flooding and the seasonal wetness.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
• Because of the flooding and the seasonal wetness, this soil is unsuited to septic tank systems.

Interpretive Groups

Land capability classification: 4w

Eg—Egam silt loam, frequently flooded

Composition

Egam soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Flood plains
Size of areas: 5 to 300 acres
Parent material: Alluvium

Soil Properties and Qualities

Drainage class: Well drained or moderately well drained
Permeability: Moderately slow
Flooding: Frequency—frequent; duration—very brief
Available water capacity: High
Seasonal high water table: At a depth of 2.5 to 3.5 feet from December through March
Soil reaction: Moderately acid to mildly alkaline
Depth to bedrock: More than 60 inches

Typical Profile

Surface layer:
0 to 11 inches—dark brown silt loam

Subsoil:
11 to 47 inches—very dark grayish brown clay
47 to 66 inches—dark brown clay
66 to 72 inches—dark yellowish brown clay

Bedrock:
72 inches—limestone

Inclusions

• Soils that are less than 60 inches deep over bedrock
• Soils that have gravel in the lower part of the profile
• Arrington soils

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Bottom-land hardwoods

Cropland

Suitability: Suited
Management considerations:
• If tilled when wet, this soil can become cloddy and a crust can form on the soil surface.
• The flooding can delay planting and interfere with harvesting.
• Perennial crops and some annual crops are damaged by floodwater in some years.
• Because of the clayey subsoil, plants grown on this soil become stressed during periods of drought.

Pasture and hay

Suitability: Well suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Unsuited
Management considerations:
• This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for septic tank absorption fields because of the flooding.

Interpretive Groups

Land capability classification: 3w

GaC—Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst

Composition

Gladeville soil and similar components: 75 percent
Rock outcrop: 25 percent

Setting

Landscape position: Undulating uplands with numerous sinkholes
Size of areas: 5 to 350 acres
Parent material: Residuum derived from thinly bedded, flaggy limestone

Soil Properties and Qualities

Gladeville

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Neutral to moderately alkaline
Depth to bedrock: 3 to 12 inches

Typical Profile

Gladeville

Surface layer:
0 to 7 inches—very dark grayish brown channery silty clay loam

Substratum:
7 to 9 inches—dark yellowish brown very flaggy clay

Bedrock:
9 inches—thinly bedded, flaggy limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Soils that have a light colored surface layer
- Soils that are 12 to 20 inches deep over limestone bedrock

Use and Management

Major use: Woodland
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- Numerous rock fragments on the surface, the depth to bedrock, and the Rock outcrop are limitations affecting seedbed preparation.
- The depth to bedrock severely limits the amount of available water for plants.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The fragments in and on the surface layer can limit many management practices.
- The very low available water capacity reduces yields and limits the response of plants to fertilizer.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a severe limitation.
- Excavation of sites for buildings and utilities is difficult and expensive.
- The Rock outcrop and the depth to bedrock are severe limitations affecting the construction of roads.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- The depth to bedrock is a severe limitation.
- A suitable alternative site should be selected.

Interpretive Groups

Land capability classification: 7s

Gd—Godwin silt loam, frequently flooded

Composition

Godwin soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Flood plains
Size of areas: 5 to 50 acres

Slope range: 0 to 3 percent
Parent material: Alluvium

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow
Flooding: Frequency—frequent; duration—very brief
Available water capacity: High
Seasonal high water table: At a depth of 1.0 to 1.5 feet from December through March
Soil reaction: Slightly acid or neutral
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
10 to 22 inches—very dark gray silty clay
22 to 34 inches—very dark grayish brown clay

Substratum:
34 to 60 inches—dark grayish brown clay

Inclusions

- Tupelo soils
- Soils that are less than 60 inches deep over bedrock
- Soils that are moderately well drained

Use and Management

Major use: Pasture
Common woodland vegetation: Bottom-land hardwoods

Cropland

Suitability: Suited
Management considerations:
- The flooding can delay planting and interfere with harvesting.
- The wetness limits the choice of crops that can be grown.

Pasture and hay

Suitability: Suited
Management considerations:
- Only hay and pasture plants that can tolerate the periodic inundation by floodwater and the seasonal wetness should be selected for seeding.
- Grazing when the soil is wet results in surface compaction and destruction of the sod.
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for septic tank absorption fields because of the flooding.

Interpretive Groups

Land capability classification: 4w

Go—Godwin silty clay loam, frequently flooded

Composition

Godwin soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Flood plains
Size of areas: 5 to 325 acres
Slope range: 0 to 3 percent
Parent material: Alluvium

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow
Flooding: Frequency—frequent; duration—very brief
Available water capacity: High
Seasonal high water table: At a depth of 1.0 to 1.5 feet from December through March
Soil reaction: Slightly acid or neutral
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
10 to 22 inches—very dark gray silty clay
22 to 34 inches—very dark grayish brown clay
34 to 60 inches—dark grayish brown clay

Inclusions

- Soils that are moderately well drained
- Tupelo soils
- Soils that are less than 60 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Bottom-land hardwoods—oak-sycamore type

Cropland

Suitability: Suited
Management considerations:
• The flooding can delay planting and interfere with harvesting.
• The wetness limits the choice of crops that can be planted.

Pasture and hay

Suitability: Suited
Management considerations:
• Only hay and pasture plants that can tolerate the periodic inundation by floodwater and the seasonal wetness should be selected for seeding.
• Grazing when the soil is wet results in surface compaction and destruction of the sod.
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Unsuited
Management considerations:
• This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
• This soil is not suitable as a site for septic tank absorption fields because of the flooding.

Interpretive Groups

Land capability classification: 4w

HaB2—Hampshire silt loam, 2 to 5 percent slopes, eroded

Composition

Hampshire soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 60 acres
Parent material: Clayey residuum derived from interbedded limestone, sandstone, and shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
8 to 25 inches—dark brown clay
25 to 46 inches—yellowish brown clay

Bedrock:
46 inches—interbedded sandy limestone and siltstone

Inclusions

• Soils that are more than 60 inches deep over bedrock
• Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Well suited
Management considerations:
• This soil is suited to most of the climatically adapted crops grown in the county.
• Minimum tillage, grassed waterways, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
• A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited

Management considerations:
- The shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 2e

HaC2—Hampshire silt loam, 5 to 12 percent slopes, eroded

Composition

Hampshire soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 130 acres
Parent material: Clayey residuum derived from interbedded limestone, sandstone, and shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
8 to 25 inches—dark brown clay
25 to 46 inches—yellowish brown clay

Bedrock:
46 inches—interbedded sandy limestone and siltstone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Suited
Management considerations:
- Minimum tillage, contour farming, contour stripcropping, grassed waterways, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
- The shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- Buildings should be designed so that they conform to the natural slope of the land.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 3e

HaC3—Hampshire silty clay loam, 5 to 12 percent slopes, severely eroded

Composition

Hampshire soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 100 acres
Parent material: Clayey residuum derived from interbedded limestone, sandstone, and shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 4 inches—brown silty clay loam

Subsoil:
4 to 24 inches—strong brown clay
24 to 41 inches—yellowish brown clay

Bedrock:
41 inches—soft, interbedded sandy limestone and siltstone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Suited
Management considerations:
- The previous severe erosion has reduced the productivity of most crops.
- Minimum tillage, contour farming, contour stripcropping, grassed waterways, cover crops, crop rotations that include grasses and legumes for long periods of time, crop residue management, and no-till planting help to prevent further erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Suited
Management considerations:
- The removal of all or most of the original surface layer by erosion has resulted in reduced hay and forage yields of most grasses and legumes.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
- The shrink-swell potential in the subsoil is a moderate limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- Buildings should be designed so that they conform to the natural slope of the land.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4e

HaD2—Hampshire silt loam, 12 to 20 percent slopes, eroded

Composition

Hampshire soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 125 acres
Parent material: Clayey residuum derived from interbedded limestone, sandstone, and shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
8 to 25 inches—dark brown clay
25 to 46 inches—yellowish brown clay

Bedrock:
46 inches—interbedded sandy limestone and siltstone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- Because of the slope and the hazard of erosion, this soil should not be used for row crops grown year after year.
- Applying a crop rotation system that includes grasses and legumes for several growing seasons helps to control erosion.

Pasture and hay

Suitability: Suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope and the depth to bedrock are limitations on sites for most structures.
- The cost of overcoming the slope and the depth to bedrock is prohibitive in some areas.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Distribution lines for septic tank systems should be installed in the less sloping areas of included soils.
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4e

HaD3—Hampshire silty clay loam, 12 to 20 percent slopes, severely eroded

Composition

Hampshire soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 200 acres
Parent material: Clayey residuum derived from interbedded limestone, sandstone, and shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 4 inches—brown silty clay loam

Subsoil:
4 to 24 inches—strong brown clay
24 to 41 inches—yellowish brown clay

Bedrock:
41 inches—interbedded sandy limestone and siltstone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- The slope and the hazard of further erosion are major management concerns.

Pasture and hay

Suitability: Suited
Management considerations:
- The removal of all or most of the original surface layer by erosion has resulted in reduced hay and forage yields of most grasses and legumes.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope and the depth to bedrock are limitations on sites for most structures.
- The cost of overcoming the slope and the depth to bedrock is prohibitive in some areas.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.
- Road cutbanks are subject to slumping.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 6e

HrB—Harpeth silt loam, 2 to 5 percent slopes

Composition

Harpeth soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Undulating stream terraces and uplands
Size of areas: 5 to 240 acres
Parent material: A silty mantle underlain by old alluvium or limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
9 to 65 inches—yellowish red silty clay loam

Inclusions

- Soils that have a clayey subsoil
- Soils that have a dark surface layer
- Soils that are less than 60 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, grassed waterways, cover crops,

crop residue management, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
• A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Well suited
Management considerations:
• Only slight limitations affect most building site development.
• This soil is severely limited as a site for local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Suited
Management considerations:
• Increasing the size of septic tank absorption fields helps to overcome the restricted permeability in the lower part of the subsoil.

Interpretive Groups

Land capability classification: 2e

HrC2—Harpeth silt loam, 5 to 12 percent slopes, eroded

Composition

Harpeth soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Undulating terraces and uplands
Size of areas: 5 to 70 acres
Parent material: A silty mantle underlain by old alluvium or limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
6 to 65 inches—yellowish red silty clay loam

Inclusions

• Soils that have a clayey subsoil
• Soils that are less than 60 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
• This soil is well suited to most of the climatically adapted crops grown in the county if measures that help to control further erosion are applied.
• Minimum tillage, grassed waterways, cover crops, contour farming, contour stripcropping, crop residue management, crop rotations that include grasses and legumes, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
• Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
• Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
• A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
• The slope is a moderate limitation affecting building site development.

• Buildings should be designed so that they conform to the natural slope of the land.
• This soil is severely limited as a site for local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Suited
Management considerations:
• Increasing the size of septic tank absorption fields helps to overcome the restricted permeability.
• Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 3e

HtC—Hawthorne gravelly silt loam, 5 to 15 percent slopes

Composition

Hawthorne soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Narrow, rolling ridgetops
Size of areas: 5 to 25 acres
Parent material: Residuum derived from interbedded siltstone and limestone

Soil Properties and Qualities

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

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

Subsurface layer:
2 to 7 inches—dark yellowish brown gravelly silt loam

Subsoil:
7 to 15 inches—yellowish brown very gravelly silt loam
15 to 28 inches—strong brown very gravelly silt loam

Bedrock:
28 inches—horizontally bedded, cherty limestone, siltstone, and silty soil material

Inclusions

• Soils that have less than 35 percent rock fragments in the subsoil
• Soils that are more than 40 inches deep over soft bedrock

Use and Management

Major use: Woodland
Common woodland vegetation: Oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
• The high content of rock fragments, the depth to bedrock, and the limited available water capacity are management concerns.

Pasture and hay

Suitability: Poorly suited
Management considerations:
• The very low available water capacity reduces yields and limits the response of plants to fertilizer.
• Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
• The depth to bedrock is a limitation on sites for shallow excavations and dwellings with basements.
• On slopes where cuts are needed, construction of local roads and streets is limited by the depth to rippable bedrock.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• The ability of the soil to absorb and filter effluent is not adequate because of the limited depth to bedrock and the high content of rock fragments and may cause seepage of effluent on the lower slopes.
• The depth to bedrock hinders installation of septic tank absorption fields.
• Other sites or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4s

HtE—Hawthorne gravelly silt loam, 15 to 45 percent slopes

Composition

Hawthorne soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Hillsides
Size of areas: 10 to 75 acres
Parent material: Residuum derived from interbedded cherty limestone and siltstone

Soil Properties and Qualities

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

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

Subsurface layer:
2 to 7 inches—dark yellowish brown gravelly silt loam

Subsoil:
7 to 15 inches—yellowish brown very gravelly silt loam
15 to 28 inches—strong brown very gravelly silt loam

Bedrock:
28 inches—interbedded cherty limestone and siltstone

Inclusions

- Soils that have less than 35 percent rock fragments in the subsoil
- Soils that are more than 40 inches deep over bedrock
- Soils that are less than 20 inches deep over hard bedrock

Use and Management

Major use: Woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- The slope, the hazard of erosion, the limited rooting depth, and the limited available water capacity are the main management concerns.
- This soil should not be used as cropland.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- The limited available water capacity reduces forage yields.
- Only drought-tolerant grasses and legumes should be selected for planting.
- Safe operation of farm machinery is very difficult because of the slope.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope and the danger of slippage are severe limitations on sites for most structures.
- The cost of overcoming the slope and slippage is prohibitive in some areas.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Distribution lines for septic tank systems should be installed in the less sloping areas.
- The depth to bedrock hinders installation of systems.
- Other sites or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7s

HWE—Hawthorne and Dellrose association, 25 to 55 percent slopes

Composition

Hawthorne soil and similar components: 65 percent
Dellrose soil and similar components: 35 percent

Setting

Landscape position: Hawthorne soil—on the upper part of steep hillsides; Dellrose soil—on the lower part of steep hillsides
Size of areas: 10 to 800 acres

Parent material: Hawthorne soil—residuum derived from interbedded cherty limestone and siltstone; Dellrose soil—cherty colluvium or cherty colluvium and the underlying clayey residuum

Soil Properties and Qualities

Hawthorne

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Very low
Seasonal high water table: None
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches

Dellrose

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches

Typical Profile

Hawthorne

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

Subsurface layer:
2 to 7 inches—dark yellowish brown gravelly silt loam

Subsoil:
7 to 15 inches—yellowish brown very gravelly silt loam
15 to 28 inches—strong brown very gravelly silt loam

Bedrock:
28 inches—interbedded cherty limestone and siltstone

Dellrose

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

Subsoil:
7 to 14 inches—dark brown gravelly silt loam
14 to 20 inches—yellowish brown gravelly silt loam
20 to 65 inches—strong brown gravelly silty clay loam

Inclusions

- Soils having a clayey subsoil
- Some areas of Dellrose soils that have cobbles on the surface

Use and Management

Major use: Woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- Erosion is a very severe hazard on slopes of more than 25 percent.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- Because of the steep slopes and the numerous rock fragments on the surface, managing pastures is extremely difficult.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Unsuited
Management considerations:
- The steep slopes and the depth to bedrock are major limitations in areas of the Hawthorne soil.
- Slippage is a hazard if the soils on steep hillsides are excavated.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- The slope, the depth to bedrock, the hazard of slippage, and downslope seepage are major management concerns.

Interpretive Groups

Land capability classification: 7s

Ln—Lindell silt loam, frequently flooded

Composition

Lindell soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Flood plains
Size of areas: 5 to 240 acres
Slope range: 0 to 2 percent
Parent material: Loamy alluvium

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderate

Flooding: Frequency—frequent; duration—very brief
Available water capacity: High
Seasonal high water table: At a depth of 2 to 3 feet from December through March
Soil reaction: Moderately acid to neutral
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
6 to 29 inches—dark yellowish brown loam
29 to 43 inches—dark grayish brown loam

Substratum:
43 to 51 inches—grayish brown clay loam
51 to 60 inches—gray gravelly clay loam

Inclusions

- Soils that are somewhat poorly drained
- Soils that are gravelly in the upper part of the subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Bottom-land hardwoods—oak-maple type

Cropland

Suitability: Suited
Management considerations:
- The flooding can delay planting and interfere with harvesting.
- Planting short-season annuals later in spring is recommended.

Pasture and hay

Suitability: Well suited
Management considerations:
- Only hay and pasture plants that can tolerate the periodic inundation by floodwater and the seasonal wetness should be selected for planting.

Building site development

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for septic tank absorption fields because of the flooding.

Interpretive Groups

Land capability classification: 3w

MaE3—Marsh-Stiversville complex, 15 to 35 percent slopes, severely eroded

Composition

Marsh soil and similar components: 65 percent
Stiversville soil and similar components: 35 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 500 acres
Slope range: 15 to 35 percent
Parent material: Residuum derived from interbedded siltstone, limestone, sandstone, and shale

Soil Properties and Qualities

Marsh

Drainage class: Well drained
Permeability: Moderate or moderately rapid
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Very strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Stiversville

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Marsh

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

Subsurface layer:
3 to 19 inches—yellowish brown loam

Subsoil:
19 to 23 inches—yellowish brown very channery loam

Bedrock:
23 inches—interbedded siltstone and limestone

Stiversville

Surface layer:
0 to 6 inches—dark brown loam

Subsoil:
6 to 25 inches—strong brown loam
25 to 50 inches—strong brown clay loam
50 to 55 inches—strong brown channery clay loam

Bedrock:
55 inches—interbedded siltstone and sandstone

Inclusions

- Soils that have a clayey subsoil
- Soils that are less than 20 inches deep over bedrock

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- The slope, the hazard of erosion, the depth to bedrock, and the limited available water capacity are the main management concerns.

Pasture and hay

Suitability: Suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Poorly suited
Management considerations:
- The slope and the depth to bedrock are limitations affecting construction.
- Buildings should be designed so that they conform to the natural slope of the land.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The slope and the depth to bedrock are major limitations.
- An area of deeper, less sloping soils should be selected.

Interpretive Groups

Land capability classification: 6s

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

Composition

Mimosa soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 350 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock
- Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
- This soil should not be used for cultivated crops grown year after year.
- Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.

• Minimum tillage, contour farming, contour stripcropping, cover crops, crop residue management, crop rotations that include grasses and legumes for long periods of time, and no-till planting help to control erosion.
• Site-specific recommendations are needed.
• The moderate available water capacity reduces yields and limits the response of plants to fertilizer.

Pasture and hay

Suitability: Suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.
• The moderate available water capacity reduces yields and limits the response of plants to fertilizer.
• Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.
• The shrink-swell potential is a limitation on sites for building foundations.
• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• This soil is poorly suited to local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4e

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

Composition

Mimosa soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 140 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

• Soils that are more than 60 inches deep over bedrock
• Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
• This soil should not be used for cultivated crops grown year after year.
• Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.
• Minimum tillage, contour farming, contour stripcropping, cover crops, a crop rotation that includes grasses and legumes for long periods of time, crop residue management, and no-till planting help to control erosion.
• Site-specific recommendations are needed.
• The moderate available water capacity reduces yields and limits the response of plants to fertilizer.

Pasture and hay

Suitability: Suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.
- The moderate available water capacity reduces yields and limits the response of plants to fertilizer.
- Only drought-tolerant grasses and legumes should be selected for planting.
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Safe operation of farm machinery can be very difficult because of the slope.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The slope is a severe limitation on sites for most structures.
- The cost of overcoming the slope is prohibitive in some areas.
- The shrink-swell potential is a limitation on sites for building foundations.
- Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is poorly suited to local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.
- Distribution lines for septic tank systems should be installed in the less sloping areas.

Interpretive Groups

Land capability classification: 6e

MmE—Mimosa silt loam, 20 to 35 percent slopes

Composition

Mimosa soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 50 acres
Slope range: 20 to 35 percent
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- Because of the steep slopes and a severe erosion hazard, this soil is unsuited to cultivated crops.

Pasture and hay

Suitability: Poorly suited

Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, proper stocking rates, and measures that prevent overgrazing.
- The moderate available water capacity can reduce forage yields and lower the response of plants to fertilizer.
- The slope and erosion are severe limitations if plants are overgrazed or if the plant stand is in poor condition.
- Safe operation of farm machinery is very difficult because of the slope.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The slope and the shrink-swell potential are severe limitations on sites for most structures.
- The cost of overcoming the slope and the shrink-swell potential is prohibitive in some areas.
- This soil is poorly suited to local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the slope and the restricted permeability in this soil, an area of better suited, less sloping soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7e

MmE2—Mimosa silt loam, 20 to 35 percent slopes, eroded

Composition

Mimosa soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 50 acres
Slope range: 20 to 35 percent
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- Because of the steep slopes and a severe hazard of erosion, this soil is unsuited to cultivated crops.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, proper stocking rates, and measures that prevent overgrazing.
- The moderate available water capacity can reduce forage yields and lower the response of plants to fertilizer.
- The slope and erosion are severe limitations if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Safe operation of farm machinery is very difficult.

Building site development

Suitability: Poorly suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.
• The slope and the shrink-swell potential are severe limitations on sites for most structures.
• The cost of overcoming the slope and the shrink-swell potential is prohibitive in some areas.
• This soil is poorly suited to local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• Because of the slope and the restricted permeability in this soil, an area of better suited, less sloping soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7e

MoC2—Mimosa gravelly silt loam, 5 to 12 percent slopes, eroded

Composition

Mimosa soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 90 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

• Soils that are more than 60 inches deep over bedrock
• Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
• This soil should not be used for cultivated crops grown year after year.
• Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.
• Minimum tillage, contour farming, contour stripcropping, cover crops, a crop rotation that includes grasses and legumes for long periods of time, crop residue management, and no-till planting help to control erosion.
• Site-specific recommendations are needed.
• The moderate available water capacity reduces yields and limits the response of plants to fertilizer.

Pasture and hay

Suitability: Suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.
• The moderate available water capacity reduces yields and limits the response of plants to fertilizer.
• Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.
• The shrink-swell potential is a limitation on sites for building foundations.
• Properly designing the foundation of buildings helps

to prevent the damage caused by shrinking and swelling.
- Runoff should be diverted away from footings.
- This soil is poorly suited to local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4e

MoD2—Mimosa gravelly silt loam, 12 to 20 percent slopes, eroded

Composition

Mimosa soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 140 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
- This soil should not be used for cultivated crops grown year after year.
- Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.
- Minimum tillage, contour farming, contour stripcropping, cover crops, a crop rotation that includes grasses and legumes for long periods of time, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.
- The moderate available water capacity reduces yields and limits the response of plants to fertilizer.

Pasture and hay

Suitability: Suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.
- The moderate available water capacity reduces yields and limits the response of plants to fertilizer.
- Only drought-tolerant grasses and legumes should be selected for planting.
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- Safe operation of farm machinery can be very difficult.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The slope is a severe limitation on sites for most structures.
- The cost of overcoming the slope is prohibitive in some areas.
- The shrink-swell potential is a limitation on sites for building foundations.

• Properly designing the foundation of buildings helps to prevent the damage caused by shrinking and swelling.
• Runoff should be diverted away from footings.
• This soil is poorly suited to local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.
• Distribution lines for septic tank systems should be installed in the less sloping areas.

Interpretive Groups

Land capability classification: 6e

MoE2—Mimosa gravelly silt loam, 20 to 35 percent slopes, eroded

Composition

Mimosa soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 130 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches

Typical Profile

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

Subsoil:
5 to 45 inches—yellowish brown clay
45 to 52 inches—light olive brown and yellowish brown clay

Bedrock:
52 inches—limestone

Inclusions

• Soils that are more than 60 inches deep over bedrock
• Soils that are less than 40 inches deep over bedrock

Use and Management

Major use: Pasture or woodland
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Unsuited
Management considerations:
• Because of the steep slopes and a severe hazard of erosion, this soil is unsuited to cultivated crops.

Pasture and hay

Suitability: Poorly suited
Management considerations:
• The quality and quantity of forage can be maintained by a rotation grazing system, proper stocking rates, and measures that prevent overgrazing.
• The moderate available water capacity can reduce forage yields and limit the response of plants to fertilizer.
• The slope and erosion are severe limitations if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
• Safe operation of farm machinery is very difficult.

Building site development

Suitability: Poorly suited
Management considerations:
• The depth to bedrock is a limitation affecting excavation.
• The slope and the shrink-swell potential are severe limitations on sites for most structures.
• The cost of overcoming the slope and the shrink-swell potential is prohibitive in some areas.
• This soil is poorly suited to local roads and streets because of low strength.
• Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• Because of the slope and the restricted permeability in this soil, an area of better suited, less sloping soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 7e

NeB—Nesbitt silt loam, 2 to 5 percent slopes

Composition

Nesbitt soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Undulating stream terraces
Size of areas: 5 to 100 acres
Parent material: Alluvium underlain by limestone residuum

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderate in the upper part of the profile; moderately slow in the lower part
Flooding: None
Available water capacity: High
Seasonal high water table: At a depth of 2 to 4 feet from January through March
Soil reaction: Moderately acid or strongly acid
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
7 to 40 inches—strong brown silty clay loam
40 to 75 inches—strong brown clay

Inclusions

- Soils that are less than 60 inches deep over bedrock
- Soils that have a clayey subsoil
- Soils that are well drained

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- The wetness in spring and winter is a slight limitation when deep-rooted crops are grown on this soil.
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Poorly suited
Management considerations:
- Installing a drainage system around buildings and land shaping so that surface water flows away from structures help to overcome the wetness.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 2e

Pt—Pits, quarries

Composition

This map unit consists entirely of areas of active or inactive quarries. It includes excavated soil overburden and areas of limestone quarries. Areas of the map unit are either dry or filled with water. They include the adjacent, uneven piles of rubble from the quarry operations.

Setting

Landscape position: Scattered throughout the county
Size of areas: 4 to 75 acres
Slope range: Varies; sidewalls of quarries commonly are nearly vertical
Parent material: Limestone bedrock

Use and Management

Major use: Active quarry sites; some inactive quarries used for limited recreational activities and others as waste land

Interpretive Groups

Land capability classification: None assigned

RoC—Rock outcrop-Talbott complex, 2 to 12 percent slopes

Composition

Rock outcrop: 75 percent
Talbott soil and similar components: 25 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 370 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Talbott

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 15 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface. The bands of Rock outcrop commonly have cracks or crevices that are 1 to 10 feet wide and 4 to more than 6 feet deep. Some of the cracks or crevices contain clayey soil material.

Talbott

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Inclusions

- Soils that are less than 20 inches deep over bedrock
- Soils that are more than 40 inches deep over bedrock
- Soils that have a loamy subsoil
- Soils that have a dark surface layer

Use and Management

Major use: Woodland
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Unsuited
Management considerations:
- The Rock outcrop severely restricts tillage.

Pasture and hay

Suitability: Poorly suited
Management considerations:.
- Many management practices are not feasible because of the Rock outcrop.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- Because of the Rock outcrop, the construction of buildings and roads and the installation of utilities are very difficult.
- The depth to bedrock is a limitation affecting excavation.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The Rock outcrop is a severe limitation affecting the installation of septic tank absorption fields.
- Because of the depth to bedrock and the restricted permeability of the Talbott soil, an alternative system should be considered.

Interpretive Groups

Land capability classification: 7s

StB—Stiversville loam, 2 to 5 percent slopes

Composition

Stiversville soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 150 acres
Parent material: Residuum derived from fine grained sandy limestone interbedded with shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 9 inches—dark yellowish brown loam

Subsoil:
9 to 45 inches—strong brown clay loam
45 to 54 inches—strong brown channery clay loam

Bedrock:
54 inches—interbedded sandy limestone and shale

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that have more than 15 percent gravel throughout the subsoil
- Soils that are underlain by hard bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Well suited
Management considerations:
- This soil has slight limitations affecting most construction.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- Distribution lines should be installed in areas where bedrock is at the greatest depth.

Interpretive Groups

Land capability classification: 2e

StC2—Stiversville loam, 5 to 12 percent slopes, eroded

Composition

Stiversville soil and similar components: 90 percent
Contrasting components: 10 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 180 acres
Parent material: Residuum derived from fine grained sandy limestone interbedded with shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 6 inches—dark brown loam

Subsoil:
6 to 25 inches—strong brown loam
25 to 50 inches—strong brown clay loam
50 to 55 inches—strong brown channery clay loam

Bedrock:
55 inches—interbedded sandy limestone and shale

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are underlain by hard bedrock

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if cultivated crops are grown.
- This soil is suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, grassed waterways, contour farming, stripcropping, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Because of the slope, the hazard of erosion is increased if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Suited
Management considerations:
- The slope is a limitation affecting the construction of structures.
- Buildings should be designed so that they conform to the natural slope of the land.
- The slope is a moderate limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- The depth to bedrock is a limitation affecting installation.
- Distribution lines should be installed in areas where bedrock is at the greatest depth.
- Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 3e

StD2—Stiversville loam, 12 to 20 percent slopes, eroded

Composition

Stiversville soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Hillsides
Size of areas: 5 to 80 acres
Parent material: Residuum derived from fine grained sandy limestone interbedded with shale

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Flooding: None
Available water capacity: Moderate
Seasonal high water table: None
Soil reaction: Strongly acid or moderately acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: 40 to 60 inches

Typical Profile

Surface layer:
0 to 6 inches—dark brown loam

Subsoil:
6 to 25 inches—strong brown loam
25 to 50 inches—strong brown clay loam
50 to 55 inches—strong brown channery clay loam

Bedrock:
55 inches—interbedded sandy limestone and shale

Inclusions

- Soils that are more than 60 inches deep over bedrock
- Soils that are less than 40 inches deep over bedrock
- Soils that are underlain by hard bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
• This soil should not be used for cultivated crops grown year after year.
• Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.
• Minimum tillage, cover crops, crop rotations that include grasses and legumes for long periods of time, crop residue management, contour farming, stripcropping, and no-till planting help to control erosion.
• Site-specific recommendations are needed.

Pasture and hay

Suitability: Suited
Management considerations:
• Erosion is a hazard if plants are overgrazed or if the stand deteriorates so that it is in poor condition.
• The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, proper stocking rates, and measures that prevent overgrazing.

Building site development

Suitability: Poorly suited
Management considerations:
• The slope is a severe limitation.
• The depth to bedrock is a limitation on sites for deep excavations.
• Buildings should be designed so that they conform to the natural slope of the land.
• The slope is a severe limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
• The slope is a severe limitation.
• Because of the slope, distribution lines for septic tank systems should be installed on the contour or in the less sloping areas.

Interpretive Groups

Land capability classification: 4e

TaB2—Talbott silt loam, 2 to 5 percent slopes, eroded

Composition

Talbott soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 375 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid, except the layers near the bedrock range to slightly alkaline and the surface layer is not so acid in areas where lime has been applied
Depth to bedrock: 20 to 40 inches

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Inclusions

• Soils that are more than 40 inches deep over bedrock
• Soils that are less than 20 inches deep over bedrock
• Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Oak-hickory type

Cropland

Suitability: Suited
Management considerations:
• The depth to bedrock limits the amount of available water for plants.
• Minimum tillage, cover crops, crop residue management, and no-till planting help to control erosion and conserve moisture.

- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The shrink-swell potential is a moderate limitation affecting building site development.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 3e

TaC2—Talbott silt loam, 5 to 12 percent slopes, eroded

Composition

Talbott soil and similar components: 80 percent
Contrasting components: 20 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 175 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Inclusions

- Soils that are more than 40 inches deep over bedrock
- Soils that are less than 20 inches deep over bedrock

Use and Management

Major use: Pasture
Common woodland vegetation: Oak-hickory type

Cropland

Suitability: Suited
Management considerations:
- This soil should not be used for cultivated crops grown year after year.
- Applying a crop rotation system that includes grasses and legumes for several growing seasons is a necessary management practice.
- The depth to bedrock limits the amount of available water for plants.
- Minimum tillage, contour farming, stripcropping, crop residue management, crop rotations that include grasses and legumes, and no-till planting help to control erosion and conserve moisture.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Suited
Management considerations:
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a limitation affecting excavation.
- The shrink-swell potential is a limitation on sites for structures.
- Runoff should be diverted away from footings.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- Because of the limited depth to bedrock and the restricted permeability in this soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 4e

TbB—Talbott silt loam, 2 to 5 percent slopes, rocky

Composition

Talbott soil and similar components: 85 percent
Rock outcrop: 2 percent
Contrasting components: 13 percent

Setting

Landscape position: Undulating uplands
Size of areas: 5 to 200 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

Talbott

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Soils that are more than 40 inches deep over bedrock
- Soils that are less than 20 inches deep over bedrock
- Soils that have a loamy subsoil

Use and Management

Major use: Pasture
Common woodland vegetation: Oak-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
- The Rock outcrop is a limitation affecting seedbed preparation.
- The depth to bedrock limits the amount of available water for plants.
- Small acreages of this soil can be used for row crops if the Rock outcrop does not hinder tillage.
- Minimum tillage, contour farming, stripcropping, crop residue management, crop rotations that include grasses and legumes, and no-till planting help to control erosion and conserve moisture.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Suited
Management considerations:.
- The Rock outcrop hinders the management of forage and limits harvest in most areas.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited

Management considerations:
- The Rock outcrop is a severe limitation affecting the construction of buildings and roads.
- The Rock outcrop and the depth to bedrock are limitations affecting excavation.
- This soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The depth to bedrock is a severe limitation.
- Because of the depth to bedrock and the restricted permeability of the Talbott soil, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 3e

TtC—Talbott-Rock outcrop complex, 2 to 15 percent slopes

Composition

Talbott soil and similar components: 65 percent
Rock outcrop: 35 percent

Setting

Landscape position: Rolling uplands
Size of areas: 5 to 425 acres
Parent material: Limestone residuum

Soil Properties and Qualities

Talbott

Drainage class: Well drained
Permeability: Slow or very slow
Flooding: None
Available water capacity: Low
Seasonal high water table: None
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: 20 to 40 inches

Typical Profile

Talbott

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 23 inches—yellowish red clay
23 to 32 inches—light olive brown clay

Bedrock:
32 inches—limestone

Rock outcrop

The Rock outcrop occurs as horizontal shelves of exposed limestone bedrock or as isolated stones or boulders of limestone. The exposures of Rock outcrop are 1 to 10 feet wide and as much as 20 feet long. The Rock outcrop protrudes from about 1 to 3 feet above the soil surface.

Inclusions

- Soils that are more than 40 inches deep over bedrock
- Soils that are less than 20 inches deep over bedrock

Use and Management

Major use: Woodland (fig. 9)
Common woodland vegetation: Redcedar-hickory type

Cropland

Suitability: Poorly suited
Management considerations:
- The Rock outcrop restricts tillage in most areas.
- The low available water capacity limits crop yields.

Pasture and hay

Suitability: Poorly suited
Management considerations:
- Many management practices are not feasible because of the Rock outcrop.
- Only drought-tolerant grasses and legumes should be selected for planting.

Building site development

Suitability: Poorly suited
Management considerations:
- Because of the Rock outcrop, the construction of buildings and roads and the installation of utilities are very difficult.
- The depth to bedrock is a limitation affecting excavation.
- This Talbott soil is severely limited as a site for local roads and streets because of low strength.
- Providing suitable subgrade or base material helps to prevent the damage caused by low strength.

Septic tank absorption fields

Suitability: Poorly suited
Management considerations:
- The Rock outcrop hinders installation of septic tank systems.
- The depth to bedrock is a severe limitation.

Figure 9.—An area of Talbott-Rock outcrop complex, 2 to 15 percent slopes. This unit generally is best used as unimproved pasture or woodland because the Rock outcrop limits management practices.

• Because of the restricted permeability in this unit, an area of better suited soils should be selected or an alternative system should be considered.

Interpretive Groups

Land capability classification: 6s

Tu—Tupelo silt loam, occasionally flooded

Composition

Tupelo soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Low stream terraces
Size of areas: 5 to 225 acres
Slope range: 0 to 3 percent
Parent material: Clayey alluvium

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow or very slow
Flooding: Frequency—occasional; duration—brief
Available water capacity: High
Seasonal high water table: At a depth of 1 to 2 feet from November through March
Soil reaction: Strongly acid to slightly acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 12 inches—light yellowish brown silty clay loam
12 to 23 inches—light yellowish brown clay
23 to 41 inches—light brownish gray clay

Substratum:
41 to 65 inches—gray clay

Inclusions

- Soils that are poorly drained
- Soils that are less than 60 inches deep over bedrock
- Soils that have a dark surface layer

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Bottom-land hardwoods

Cropland

Suitability: Poorly suited
Management considerations:
- The flooding and the seasonal wetness can delay planting and interfere with harvesting.
- The seasonal wetness in early spring can prevent timely seedbed preparation and restrict the rooting depth of some crops.
- Planting short-season annuals later in spring is recommended.

Pasture and hay

Suitability: Suited
Management considerations:
- Only hay and pasture plants that can tolerate the periodic inundation by floodwater and the seasonal wetness should be selected for seeding.
- Grazing when the soil is wet results in surface compaction and destruction of the sod.

Building site development

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for dwellings because of the flooding.

Septic tank absorption fields

Suitability: Unsuited
Management considerations:
- This soil is not suitable as a site for dwellings because of the flooding.

Interpretive Groups

Land capability classification: 3w

Ub—Urban land

Composition

This map unit consists of areas covered by streets, parking lots, buildings, and other structures associated with urban development. Rock outcrop is in scattered areas throughout the unit. In several places in the unit, natural drainageways channel runoff away from developed areas; however, in most places, the drainageways were rerouted and altered when the areas were developed.

Setting

Location: The city of Lewisburg
Size of areas: 20 to 1,400 acres
Slope range: Varies, commonly 2 to 12 percent

Use and Management

Major use: Streets, parking lots, housing developments, businesses, and recreational parks

Interpretive Groups

Land capability classification: None assigned

WaB2—Waynesboro silt loam, 2 to 5 percent slopes, eroded

Composition

Waynesboro soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Undulating stream terraces
Size of areas: 5 to 130 acres
Parent material: Old alluvium

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Very strongly acid or strongly acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
6 to 27 inches—red clay
27 to 65 inches—red clay loam

Inclusions

- Soils that have more than 15 percent rock fragments throughout

- Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Well suited
Management considerations:
- This soil is well suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.
- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, and proper stocking rates.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Well suited
Management considerations:
- The clayey subsoil is a moderate limitation on sites for shallow excavations.
- Low strength is a moderate limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- Increasing the size of septic tank absorption fields helps to overcome the restricted permeability.

Interpretive Groups

Land capability classification: 2e

WaC2—Waynesboro silt loam, 5 to 12 percent slopes, eroded

Composition

Waynesboro soil and similar components: 85 percent
Contrasting components: 15 percent

Setting

Landscape position: Rolling stream terraces
Size of areas: 5 to 220 acres
Parent material: Old alluvium

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Flooding: None
Available water capacity: High
Seasonal high water table: None
Soil reaction: Very strongly acid or strongly acid, except for in the surface layer, which is not so acid in areas where lime has been applied
Depth to bedrock: More than 60 inches

Typical Profile

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

Subsoil:
6 to 27 inches—red clay
27 to 60 inches—red clay loam

Inclusions

- Soils that have more than 15 percent rock fragments throughout
- Soils that have a loamy subsoil

Use and Management

Major use: Pasture and hay (fig. 10)
Common woodland vegetation: Upland hardwoods—oak-hickory type

Cropland

Suitability: Suited
Management considerations:
- This soil is suited to most of the climatically adapted crops grown in the county.
- Minimum tillage, contour farming, contour stripcropping, cover crops, crop rotations that include grasses and legumes, crop residue management, and no-till planting help to control erosion.

Figure 10.—Alfalfa hay in an area of Waynesboro silt loam, 5 to 12 percent slopes, eroded, on an old, high terrace along the Duck River.

- Site-specific recommendations are needed.

Pasture and hay

Suitability: Well suited
Management considerations:
- The quality and quantity of forage can be maintained by a rotation grazing system, weed control by clipping, applications of fertilizer, and proper stocking rates.
- Overgrazing reduces the extent of the plant cover, increases the hazard of erosion, and results in the growth of weeds.
- A rotation grazing system, proper stocking rates, and a good fertilization program help to keep the soil and forage in good condition.

Building site development

Suitability: Suited
Management considerations:
- Buildings should be designed so that they conform to the natural slope of the land.
- The clayey subsoil is a moderate limitation on sites for shallow excavations.
- Low strength is a moderate limitation on sites for local roads and streets.

Septic tank absorption fields

Suitability: Suited
Management considerations:
- Increasing the size of septic tank absorption fields helps to overcome the restricted permeability.
- Because of the slope, distribution lines for septic tank systems should be installed on the contour.

Interpretive Groups

Land capability classification: 3e

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 these 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 woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for 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 (fig. 11).

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.

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.

In 1993, about 2,900 acres in Marshall County was used to grow corn for grain and 1,800 acres was used for wheat, 1,400 acres for soybeans, 430 acres for burley tobacco, 2,400 acres for alfalfa hay, and 29,000 acres for other hay crops (Tennessee Department of Agriculture 1993). About 110,700 acres was used as pasture. The acreage in cropland has changed very little in the last few years.

The crops climatically adapted to the county include corn, wheat, soybeans, oats, barley, rye, cotton, grain sorghum, alfalfa, orchardgrass, red clover, ladino clover, fescue, annual lespedeza, and sericea lespedeza. Some of these crops are not commonly grown in the county; however, they can be grown if market conditions are favorable.

Most of the deep and very deep, well drained soils on the lower slopes are well suited to tobacco and alfalfa and to the row crops commonly grown in this county. They include the Braxton, Bradyville, and Stiversville soils on uplands and the Harpeth, Armour, and Waynesboro soils on high stream terraces. Soils that have a limited depth to bedrock and a clayey subsoil are generally used for pasture. Examples are the Mimosa and Talbott soils. These soils can produce good yields of forage for livestock in years when rainfall is adequate during the growing season. Hay crops, such as orchardgrass and clover mixtures, can be grown in areas of soils on flood plains because most flooding occurs during winter when the plants are dormant. Arrington and Egam soils are examples of soils on flood plains.

A small acreage throughout the county is used for truck crops. These crops include sweet corn, strawberries, watermelons, cantaloupes, pumpkins,

Figure 11.—Soil properties and limitations, such as this flooding in an area of Egam silt loam, frequently flooded, should be considered carefully prior to construction of roads and buildings.

and vegetables. Examples of a few specialty crops that could be grown in the county are peppers, squash, tomatoes, fruits, and nursery plants.

Soils well suited to specialty crops have good soil tilth, rooting depth, and natural drainage. These crops should be planted in areas above the flood plains to help prevent the damage caused by flooding. Selecting the less sloping areas of soils helps to control erosion. Examples are the Harpeth and Armour soils on 2 to 5 percent slopes.

The latest information on growing field and specialty crops can be obtained from the local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

In 1993, there were about 48,000 beef and dairy cattle in Marshall County (Tennessee Department of Agriculture 1993). Most areas of hay and pasture in the county support a mixture of grasses and legumes. Much of the hay is grown in rotation with pasture. Most of the harvested hay is rolled. Some hay is harvested as silage.

The soils in the survey area vary widely in their ability to produce grasses and legumes because of differences in depth to bedrock, internal drainage, available water capacity, and many other properties. The forage species selected for planting should be those that are suited to the different kinds of soil. The production rates for hay and pasture in the county are shown in table 5.

Most of the soils on the steeper slopes are susceptible to erosion if the forage stand is in poor condition. Planting a good sod-forming grass, such as tall fescue, and maintaining it help to control erosion.

The main management needs on cropland and pasture in the county are measures that help to control erosion, overcome wetness, and improve tilth and fertility.

Erosion is a major management concern on about 85 percent of the cropland in Marshall County. It is a hazard in areas where slope is 2 percent or more. Harpeth and Waynesboro soils, which are suited to row crops and have slopes of 2 percent or more, are

examples of soils that are subject to erosion if used as cropland.

Erosion is damaging for a number of reasons. Productivity is reduced as the surface layer, which has a higher content of organic matter than the subsoil, is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a compacted layer, such as on the Nesbitt soils, which have a slightly compacted layer in the subsoil. As more soil is lost through erosion, the root zone above the compacted layer becomes thinner, the amount of available water is reduced, and yields may be lower than is typical if crops do not have an adequate supply of moisture. Loss of the original surface layer also results in the formation of a crust on the soil surface. Control of erosion minimizes the pollution of streams by sediments and improves the quality of water for recreational activities and for fish and wildlife.

Erosion-control practices help to provide a protective surface cover, control runoff, and increase the rate of water infiltration. A cropping system that keeps a plant cover on the soil for extended periods can help to hold soil losses within tolerable limits. Including grasses and legumes in the cropping sequence on livestock farms helps to control erosion, provide nitrogen, and improve tilth.

Conservation tillage helps to control erosion on sloping cropland. It provides a protective cover of crop residue for long periods and thus helps to control runoff and increase the rate of water infiltration. It also increases the content of organic matter in the soil, minimizes compaction, and saves time and fuel. Conservation tillage systems have been developed for corn, soybeans, and wheat in Marshall County.

Terraces and diversions reduce the length of slopes and help to control runoff and erosion. They are practical on well drained soils that have uniform slopes, such as the Stiversville and Hampshire soils. These practices are used on the lower slopes.

Other measures that help to control erosion in the county are contour farming, crop residue management, field borders, and grassed waterways.

Wetness is a major management concern in some areas in the county. Some soils are so wet that production of the crops commonly grown in the county generally is difficult. Examples are the Godwin and Tupelo soils. Unless drained, somewhat poorly drained soils remain wet until late in spring. As a result, crops cannot be planted by the optimum planting date. Some specific legislation and regulations apply to draining wet areas. Contact the Natural Resources Conservation Service or the proper regulatory agency for regulations regarding the drainage of wet areas prior to beginning any activity that involves soil drainage.

Soil tilth is an important factor affecting the germination of seeds and the infiltration of water into the soil. It also affects weed control since cloddy soils can inhibit the action of many herbicides. Soils with good tilth are granular and porous.

Most of the soils used for crops in the county have a surface layer of silt loam that is light in color and low in content of organic matter. Generally, the structure of these soils is weak or moderate. During periods of intensive rainfall, a crust forms on the soil surface. The crust is hard when dry and somewhat impervious to water. It reduces the rate of water infiltration and increases the runoff rate. Regular additions of crop residue, manure, or other organic material improve soil structure and minimize crusting.

In areas of the clayey Godwin and Tupelo soils, tilth is a management concern because the soils often stay wet until late in the spring. If these soils are plowed when wet, they tend to become very cloddy when dry. Preparing a good seedbed is difficult because of the cloddiness. Fall plowing, which allows freezing and thawing to break up the clods, generally results in good tilth in the spring, but it greatly increases the susceptibility of the soils to erosion because of the flooding during the winter months. Tilling at the optimum range in moisture content in the spring is the best management practice if tillage operations are needed.

Most of the soils in the county are moderately acid or strongly acid in reaction. Applications of agricultural lime are required to raise the pH level sufficiently for most crops to grow well.

On all soils, additions of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields. The Cooperative Extension Service and some fertilizer companies can help in determining the kinds and amounts of plant nutrients needed.

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 the table 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.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey (USDA 1961).

Capability classes, the broadest groups, are designated by numerals 1 through 8. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are not likely to erode but have other limitations, impractical to remove, that limit their use. There are no class 5 soils in Marshall County.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation.

Class 7 soils have very severe limitations that make them unsuitable for cultivation.

Class 8 soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, 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, forest land, 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.

About 38,700 acres in the survey area, or nearly 16 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county but are mainly in general soil map units 1, 3, and 5, which are described under the heading "General Soil Map Units." About 25,000 acres of this prime farmland is used for crops.

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. 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."

Woodland Management and Productivity

Originally, almost all of Marshall County was forested with upland hardwoods, but the trees have been cleared on most of the land suitable for cultivation and in areas where urban development has occurred. In many areas of the remaining woodland, the soils are too steep or outcrops of bedrock make most cultivation practices impractical. The soils in most of these areas can produce trees of good quality if the woodland is properly managed.

About 87,000 acres in the county, or 36 percent of the total acreage, is woodland. The highest ridges and hillsides in the southern part of the county have the largest stands of mature, marketable timber. All of the timber stands have been harvested in the past. Most of the acreage of woodland in the central and northern parts of the county is in areas where the growth of trees is restricted. The main limitations in these areas are the depth of the soil and outcrops of bedrock.

The largest area of woodland is in general soil map unit 1. The most common species of trees in this unit are chestnut oak, white oak, northern red oak, yellow poplar, shagbark hickory, and maple. The most common species throughout the rest of the county are chinkapin oak, hackberry, shagbark hickory, and eastern redcedar.

The quality of much of the woodland could be improved by thinning out mature trees and undesirable species. Protection from grazing and fire and the control of disease and insects also can improve the stands. The Natural Resources Conservation Service, the Tennessee State Forest Service, and the Cooperative Extension Service can help to determine specific woodland management needs.

Table 7 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils suitable for wood crops are listed.

In the table, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed also are subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight*

indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

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 woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Recreation

Marshall County has many areas of scenic, geologic, and historic interest. These areas are suited to camping, hiking, hunting, fishing, sightseeing, picnicking, and boating. The Henry Horton State Park is the largest area of public land available for recreational activities. The park includes archery ranges, golf courses, shooting ranges, playground equipment, and many other recreational facilities. Other public areas include facilities that accommodate field sports. Most of these areas are owned and operated by local communities. The Duck River provides many miles of scenic canoeing. The county has a high potential for increased recreational development.

The soils of the survey area are rated in table 8 according to limitations that affect their suitability for recreation. The ratings 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.

In the table, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

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 best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Most areas in Marshall County have been cleared of trees and are used as cropland or pasture. The larger areas of remaining woodland are on the ridges in the southern part of the county. In the central and northern parts of the county, there are a few large areas of woodland where outcrops of bedrock make the land undesirable for any other use.

The areas of openland wildlife habit are well populated with mourning dove, bobwhite quail, and cottontail rabbit. Gray squirrel and fox squirrel inhabit areas where mast and den trees, such as oak, hickory, beech, and walnut, are available. Deer and turkey inhabit suitable wooded and fringe areas throughout the county. Raccoon are common near creeks and rivers but are found throughout the county as well. Fox and coyote are the dominant predatory animals, along with a few bobcats. The waterfowl population in Marshall County is limited mainly to areas of Duck River. Wood ducks are the main species, along with a few mallards, that use the waterway. Many kinds of nongame wildlife, such as songbirds and hawks, are found throughout the county.

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 9, 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 milo.

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, orchardgrass, ryegrass, clover, lespedeza, 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, common ragweed, beggarweed, pokeberry, and croton.

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 bush honeysuckle, autumn-olive, bicolor lespedeza, 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, redcedar, 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, rushes, sedges, cattail, 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, meadowlark, field sparrow, cottontail, gray fox, 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, thrushes, woodpeckers, squirrels, gray fox, bobcat, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, muskrat, otter, 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 within a depth of 5 or 6 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 grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, 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

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, or other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a fragipan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the water table.

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a fragipan, large stones, slope, and flooding affect the ease of excavation and

construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

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 stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a fragipan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a fragipan, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 11 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

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 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a fragipan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

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. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

The table gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a fragipan, flooding, and large stones.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive 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 a fragipan can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of

landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the 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.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a fragipan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, and soil reaction affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

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.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a fragipan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 12 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

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 soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high 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 engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

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 the table, 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 engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions.

Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

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.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, and bedrock.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are naturally fertile or respond well to fertilizer and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel or stones, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel or stones, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

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 13 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 limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

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. 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 or organic matter. 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 and permeability of the aquifer. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to

bedrock, to a fragipan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; and susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a fragipan. The performance of a system is affected by the depth of the root zone and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a fragipan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a fragipan affect the construction of grassed waterways. Low available water capacity, restricted rooting depth, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

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

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

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

Classification of the soils is determined according to the Unified soil classification system (ASTM 1993) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO 1986).

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 15 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.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The 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.

Saturated hydraulic conductivity 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 micrometers per second (um/sec), 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 15, 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 15 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 16 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.

Water Features

Table 17 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. The table 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.

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 18 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.

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 (Soil Survey Staff 1975, 1992). 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 19 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” (Soil Survey Division Staff 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff 1975) and in “Keys to Soil Taxonomy” (Soil Survey Staff 1992). 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.

The map units of each soil series are described in the section “Detailed Soil Map Units.”

Armour Series

The Armour series consists of very deep, well drained soils (fig. 12). These soils are on undulating or rolling stream terraces. They formed in old alluvium or in alluvium and the underlying clayey limestone residuum. Slopes range from 2 to 12 percent.

Typical pedon of Armour silt loam, 2 to 5 percent slopes; 2.8 miles south on Highway 11 from its

intersection with Ellington Parkway, 210 feet west in a hayfield (USGS Lewisburg Quadrangle); lat. 35 degrees 23 minutes 25 seconds N. and long 86 degrees 49 minutes 16 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; common fine roots; few fine black manganese concentrations; moderately acid; clear smooth boundary.

Bt1—7 to 16 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common fine and few medium black and brown concentrations; moderately acid; gradual smooth boundary.

Bt2—16 to 40 inches; yellowish brown (10YR 5/6) silty clay loam; few medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine and few medium black and brown concentrations; moderately acid; clear smooth boundary.

Bt3—40 to 51 inches; yellowish brown (10YR 5/6) silty clay loam; common medium distinct light yellowish brown (10YR 6/4) and common medium prominent yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine and few medium black and brown concentrations; strongly acid; clear smooth boundary.

Bt4—51 to 60 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine and few medium black and brown concentrations; 5 percent fragments; strongly acid.

The thickness of the solum ranges from 40 to more than 80 inches. The depth to bedrock is more than 60 inches. Reaction is moderately acid or strongly acid. The content of rock fragments ranges from 0 to 10 percent, by volume, within a depth of 40 inches and from 0 to 60 percent below a depth of 40 inches.

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

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

The BC and C horizons, if they occur, have hue of 10YR, value of 4 or 5, and chroma of 4 or 6 and are mottled in shades of brown, yellow, or gray. The fine-earth fraction is silty clay loam or clay.

Arrington Series

The Arrington series consists of very deep, well drained soils. These soils are on nearly level flood plains and along drainageways. They formed in recent silty alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Arrington silt loam, frequently flooded; 1.8 miles west on Milltown Road from its intersection with Verona Road, 0.6 mile north on a farm road, 1,500 feet east of the farm road, in a field next to Duck River (USGS Lewisburg Quadrangle); lat. 35 degrees 35 minutes 38 seconds N. and long. 86 degrees 46 minutes 53 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; weak medium granular structure; very friable; many fine roots; slightly acid; clear smooth boundary.

A—9 to 25 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium granular structure; very friable; common fine roots; neutral; gradual smooth boundary.

Bw1—25 to 36 inches; dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure; friable; few fine roots; neutral; gradual smooth boundary.

Bw2—36 to 60 inches; brown (10YR 4/3) silt loam; common medium faint dark brown (10YR 3/3) mottles; moderate medium subangular blocky structure; firm; neutral.

The thickness of the solum ranges from 40 to more than 60 inches. The depth to bedrock is more than 60 inches. The mollic epipedon is 24 to 40 inches thick. Reaction ranges from slightly acid to slightly alkaline. The content of rock fragments ranges from 0 to 5 percent in the solum and from 0 to 15 percent in the C horizon, if it occurs.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. The Ap horizon has hue of 10YR and value and chroma of 3 or 4. The A and Ap horizons are silt loam or silty clay loam.

The Bw horizon has hue of 10YR and value and chroma of 3 or 4. In some pedons it is mottled in shades of brown. It is silt loam or silty clay loam.

The BC and C horizons, if they occur, have hue of 10YR, value of 4, and chroma of 3 or 4. In some pedons the BC horizon has few or common mottles in shades of brown. The C horizon has few or common mottles in shades of brown and gray. The BC and C horizons are dominantly silt loam or silty clay loam, but the range includes clay loam.

Ashwood Series

The Ashwood series consists of moderately deep, well drained soils (fig. 13). These soils are on rolling to steep uplands. They formed in clayey residuum derived from phosphatic limestone. Slopes range from 5 to 40 percent.

Typical pedon of Ashwood silty clay loam, in an area of Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes; 1.0 mile north of Petersburg on Highway 130, about 1.2 miles east on Joplin Road, 200 feet north on a wooded hillside (USGS Petersburg Quadrangle); lat. 35 degrees 20 minutes 32 seconds N. and long. 86 degrees 37 minutes 16 seconds W.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; friable; common fine and medium roots; about 3 percent angular fragments, 1 to 5 inches in diameter; neutral; clear smooth boundary.

Bt1—6 to 11 inches; very dark grayish brown (10YR 3/2) silty clay; moderate medium subangular blocky structure; firm; common fine and medium and few coarse roots; few faint clay films on faces of peds; about 5 percent angular fragments, 1 to 5 inches in diameter; neutral; clear wavy boundary.

Bt2—11 to 19 inches; yellowish brown (10YR 5/6) clay; common fine distinct light olive brown (2.5Y 5/6) mottles; moderate medium subangular blocky structure; very firm; common fine and few medium roots; common distinct clay films on faces of peds; about 5 percent angular fragments, 1 to 5 inches in diameter; neutral; clear wavy boundary.

BC—19 to 25 inches; yellowish brown (10YR 5/6) clay; common fine prominent light olive brown (2.5Y 5/4) mottles; weak medium subangular blocky structure; very firm; few fine roots; about 10 percent angular fragments, 1 to 8 inches in diameter; slightly alkaline; abrupt wavy boundary.

R—25 inches; hard limestone bedrock.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Reaction is moderately acid to slightly alkaline. The content of rock fragments ranges from 0 to 15 percent in individual horizons.

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

The upper part of the Bt horizon has hue of 10YR, value of 3, and chroma of 2 or 3. The lower part, which is below the mollic epipedon, has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 or 6. The Bt horizon is silty clay or clay.

The BC and C horizons, if they occur, have hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 or 6. They are clay.

Barfield Series

The Barfield series consists of shallow, well drained to excessively drained soils. These soils are on rolling to steep uplands. They formed in limestone residuum. 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; 1.0 mile north of the community of Petersburg on Highway 130, about 1.2 miles east on Joplin Road, 100 feet north on a wooded hillside (USGS Petersburg Quadrangle); lat. 35 degrees 20 minutes 30 seconds N. and long. 86 degrees 37 minutes 21 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate fine and medium granular structure; friable; common fine and few medium roots; about 5 percent thin channers and flagstones; slightly alkaline; clear smooth boundary.

Bw1—3 to 10 inches; very dark grayish brown (10YR 3/2) clay; moderate medium subangular blocky structure; very firm; common fine and few medium roots; about 5 percent thin channers and flagstones; neutral; clear wavy boundary.

Bw2—10 to 14 inches; dark yellowish brown (10YR 4/4) clay; moderate medium subangular blocky structure; very firm; few fine and medium roots; about 10 percent channers and flagstones; slightly alkaline; abrupt wavy boundary.

R—14 inches; hard limestone bedrock.

The thickness of the solum and the depth to bedrock range from 8 to 20 inches. Reaction ranges from slightly acid to slightly alkaline. The content of channers and flagstones ranges from 0 to 10 percent in the A horizon and from 5 to 20 percent in the B and C horizons.

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

The Bw horizon has hue of 10YR and value and chroma of 2 or 3. In most pedons the lower part of the Bw horizon has hue of 10YR or 2.5Y, value of 4, and chroma of 3 or 4. The Bw horizon is silty clay or clay.

The BC and C horizons, if they occur, have hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 or 6. They are silty clay or clay.

Bradyville Series

The Bradyville series consists of deep, well drained soils (fig. 14). These soils are on undulating or rolling uplands. They formed in limestone residuum or in a thin silty mantle and the underlying clayey residuum derived from limestone. Slopes range from 2 to 12 percent.

Typical pedon of Bradyville silt loam, 2 to 5 percent slopes, eroded; 2.7 miles east on Highway 64 from its intersection with U.S. Highway 31A in the community of Farmington, 150 feet north on Palmetto Road, 50 feet west in thicket (USGS Lewisburg Quadrangle); lat. 35 degrees 29 minutes 33 seconds N. and long. 86 degrees 40 minutes 23 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) silt loam; weak medium granular structure; very friable; many fine and few medium roots; strongly acid; clear smooth boundary.

BA—5 to 9 inches; strong brown (7.5YR 4/6) silt loam; common medium prominent reddish brown (5YR 4/4) mottles; weak medium subangular blocky structure; friable; common fine and few medium roots; few fine black concentrations; strongly acid; clear smooth boundary.

Bt1—9 to 22 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm; few medium and few fine roots; common faint clay films on faces of peds; few fine black concentrations; moderately acid; gradual smooth boundary.

Bt2—22 to 41 inches; yellowish red (5YR 5/8) clay; many medium prominent yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; very firm; common faint clay films on faces of peds; few fine black concentrations; moderately acid; clear smooth boundary.

C—41 to 48 inches; yellowish red (5YR 4/6) clay; many medium prominent yellowish brown (10YR 5/6) mottles; massive; common fine black accumulations; about 5 percent angular fragments; moderately acid; abrupt smooth boundary.

R—48 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock range from 40 to 60 inches. Reaction typically is slightly acid to strongly acid, except the horizon directly above the bedrock ranges to slightly alkaline and the surface layer is not so acid in areas where lime has been applied. The content of rock fragments ranges from 0 to about 15 percent in individual horizons.

The A or Ap horizon has hue of 5YR, 7.5YR, or 10YR, value of 4, and chroma of 3 or 4. It is silt loam.

The BA horizon has hue of 7.5YR, value of 4 or 5, and chroma of 6 or 8. It is silt loam or silty clay loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 or 8. The lower part of the Bt horizon has mottles in shades of brown or red. The Bt horizon is silty clay or clay.

The C horizon has hue of 5YR, 7.5YR, or 2.5YR, value of 4 or 5, and chroma of 6 or 8. In most pedons it is mottled in shades of brown, red, or gray. It is clay.

Braxton Series

The Braxton series consists of very deep, well drained soils. These soils are on undulating or rolling uplands. They formed in old valley fill or limestone residuum or in a combination of old valley fill and limestone residuum. Slopes range from 2 to 12 percent.

Typical pedon of Braxton silt loam, 2 to 5 percent slopes, eroded; 2.1 miles northeast of the community of Farmington on Highway 64, about 1.1 miles northeast on Palmetto Road, 0.4 mile north on Hunter Bills Road, 1,600 feet northeast in a pasture (USGS Lewisburg Quadrangle); lat. 35 degrees 31 minutes 32 seconds N. and long. 86 degrees 41 minutes 22 seconds W.

Ap—0 to 7 inches; dark brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—7 to 12 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common fine black concentrations; moderately acid; clear smooth boundary.

Bt2—12 to 29 inches; red (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; common fine black concentrations; moderately acid; clear smooth boundary.

Bt3—29 to 41 inches; yellowish red (5YR 4/6) clay; common medium distinct red (2.5YR 4/6) and strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure parting to strong very fine angular blocky; firm; common distinct clay films on faces of peds; common fine black concentrations; about 2 percent angular fragments; strongly acid; clear smooth boundary.

Bt4—41 to 57 inches; strong brown (7.5YR 5/6) clay; many medium prominent dark red (2.5YR 3/6)

Figure 12.—A typical profile of Armour silt loam. Depth to bedrock is more than 60 inches.

Figure 13.—A typical profile of Ashwood silty clay loam. Ashwood soils have a clayey subsoil. Depth to hard bedrock ranges from 20 to 40 inches. Depth is marked in feet.

Figure 14.—A typical profile of Bradyville silt loam. Bradyville soils have a clayey subsoil. Depth to hard bedrock ranges from 40 to 60 inches.

Figure 15.—A typical profile of Dellrose cherty silt loam. The content of rock fragments generally ranges from 10 to 35 percent, by volume. Depth is marked in feet.

Figure 16.—A typical profile of Egam silt loam. The upper part of the Egam soil, which includes the Ap horizon and the upper part of the Bw horizon, is dark and is more than 24 inches thick. The subsoil is clayey. Depth to hard bedrock is more than 60 inches.

Figure 17.—A typical profile of Hawthorne gravelly silt loam. The content of rock fragments is more than 35 percent, by volume. Depth to soft, weathered bedrock ranges from 20 to 40 inches.

mottles; moderate medium subangular blocky structure parting to strong very fine angular blocky; firm; common faint clay films on faces of peds; common fine black concentrations; 2 percent rock fragments; strongly acid; gradual smooth boundary.

BC—57 to 74 inches; strong brown (7.5YR 5/6) and dark red (2.5YR 4/6) clay; common fine prominent light gray (10YR 7/1) mottles; weak medium angular blocky structure; very firm; common fine black concentrations; about 2 percent angular fragments; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is strongly acid or moderately acid, except for in the horizon directly above the bedrock where it ranges to slightly alkaline. The content of rock fragments ranges from 0 to about 15 percent in individual horizons.

The A or Ap horizon has hue of 7.5YR or 5YR and value and chroma of 3 or 4. If the horizon has value of 3, it is less than 7 inches thick. The A or Ap horizon is silt loam.

The Bt horizon has hue of 7.5YR, 5YR, or 2.5YR, value of 4 or 5, and chroma of 6 or 8. It is mottled in shades of brown or red. It generally is silty clay or clay, except the upper few inches of the horizon is silty clay loam in some pedons.

The BC and C horizons, if they occur, have hue of 2.5YR, 5YR, or 7.5YR, value of 4 or 5, and chroma of 6 or 8. They are mottled in shades of brown, yellow, red, or gray. They are clay.

Capshaw Series

The Capshaw series consists of deep and very deep, moderately well drained soils. These soils are on nearly level or gently sloping stream terraces, in slight depressions, and on upland flats. They formed in clayey alluvium or in a thin mantle of old alluvium and the underlying clayey residuum.

Typical pedon of Capshaw silt loam, 2 to 5 percent slopes; 4.3 miles east on Holly Grove Road from its intersection with U.S. Highway 31A, about 1,750 feet north of the road (USGS Lewisburg Quadrangle); lat. 35 degrees 27 minutes 33 seconds N. and long. 86 degrees 41 minutes 21 seconds W.

Ap—0 to 9 inches; yellowish brown (10YR 5/4) silt loam; weak moderate and coarse subangular blocky structure; friable; common fine roots; strongly acid; abrupt smooth boundary.

Bt1—9 to 19 inches; yellowish brown (10YR 5/6) clay; common medium prominent yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common fine and medium black concentrations; strongly acid; clear smooth boundary.

Bt2—19 to 34 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; firm; many distinct clay films on faces of peds; yellowish red (5YR 5/6) iron concentrations; common fine and medium black manganese concentrations; common medium prominent light brownish gray (10YR 6/2) redox depletions; strongly acid; gradual smooth boundary.

Bt3—34 to 57 inches; strong brown (7.5YR 5/8) clay; weak medium and coarse subangular blocky structure; firm; common distinct clay films on faces of peds; common fine and medium black concentrations; many coarse prominent light brownish gray (10YR 6/2) redox depletions; moderately acid; abrupt smooth boundary.

R—57 inches; limestone bedrock.

The thickness of the solum ranges from 40 to 60 inches. The depth to limestone bedrock ranges from 40 to 80 inches. Reaction is moderately acid or strongly acid in the upper part of the profile. It ranges from moderately acid through slightly alkaline in the horizon directly above the bedrock. The content of rock fragments ranges from 0 to 10 percent in individual horizons.

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

The Bt horizon has hue of 10YR or 7.5YR, value of 5, and chroma of 6 or 8. The upper part of the Bt horizon has iron and manganese concentrations in shades of brown and red. The lower part of the Bt horizon has few or common iron concentrations and redox depletions in shades of red and gray. The Bt horizon is clay or silty clay loam.

The C horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 1 to 4. It has few or common redox depletions and iron accumulations. It is clay.

Dellrose Series

The Dellrose series consists of very deep, well drained soils (fig. 15). These soils are on footslopes and hillsides. They formed in gravelly colluvium or in gravelly colluvium and the underlying clayey residuum derived from limestone.

Typical pedon of Dellrose gravelly silt loam, in an area of Hawthorne and Dellrose association, 25 to 55 percent slopes; 3.2 miles south on Yell Road from its intersection with Ellington Parkway in Lewisburg, 300 feet west along a drainageway, 50 feet south on a hillside (USGS Lewisburg Quadrangle); lat. 35

degrees 23 minutes 00 seconds N. and long. 86 degrees 47 minutes 11 seconds W.

A—0 to 7 inches; dark brown (10YR 3/3) gravelly silt loam; moderate medium granular structure; very friable; many fine and medium roots; about 15 percent fragments, up to 6 inches in diameter; neutral; clear wavy boundary.

AB—7 to 14 inches; dark brown (10YR 4/3) gravelly silt loam; weak medium subangular blocky structure parting to moderate medium granular; very friable; common fine and medium and few large roots; 20 percent fragments, up to 6 inches in diameter; neutral; gradual wavy boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/4) gravelly silt loam; weak medium subangular blocky structure; very friable; few fine and medium roots; few faint clay films on faces of peds; about 20 percent fragments, up to 6 inches in diameter; moderately acid; clear wavy boundary.

Bt2—20 to 28 inches; strong brown (7.5YR 5/6) gravelly silty clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; few faint clay films on faces of peds; about 35 percent fragments, up to 6 inches in diameter; moderately acid; clear wavy boundary.

Bt3—28 to 62 inches; strong brown (7.5YR 4/6) gravelly silty clay loam; common medium prominent pale brown (10YR 6/3) and common fine distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; very firm; few medium roots; few faint clay films on faces of peds; about 35 percent fragments, up to 6 inches in diameter; slightly brittle in the upper part of the horizon; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction ranges from very strongly acid to moderately acid. The content of rock fragments ranges from 10 to 35 percent in the A horizon and the upper part of the Bt horizon and to as much as 50 percent in the lower part of the Bt horizon.

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

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

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It has few or common mottles in shades of brown and red. It is gravelly silt loam or gravelly silty clay loam.

The 2Bt horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 6 or 8. It is clay.

Eagleville Series

The Eagleville series consists of moderately deep, somewhat poorly drained soils. These soils are on nearly level flood plains and in slight depressions. They formed in clayey alluvium underlain by limestone bedrock. Slopes range from 0 to 2 percent.

Typical pedon of Eagleville silty clay loam, frequently flooded; from the community of Chapel Hill, 2.78 miles north on U.S. Highway 31A to its intersection with Crutcher Road, 1.05 miles west on Crutcher Road to Wood Road, 0.4 mile north on Wood Road, 800 feet west beside the main stream (USGS Chapel Hill Quadrangle); lat. 35 degrees 39 minutes 52 seconds N. and long. 86 degrees 42 minutes 32 seconds W.

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; friable; many fine roots; slightly alkaline; gradual smooth boundary.

AB—9 to 16 inches; very dark gray (10YR 3/1) silty clay; weak medium granular structure; firm; common fine roots; many fine and common medium black concretions; few fine distinct dark grayish brown (2.5Y 4/2) redox depletions; slightly alkaline; clear smooth boundary.

Bg—16 to 24 inches; dark grayish brown (2.5Y 4/2) clay; weak medium subangular blocky structure; firm; many fine and medium black concretions; slightly alkaline; clear smooth boundary.

Cg—24 to 27 inches; grayish brown (2.5Y 5/2) clay; massive; many fine and medium black concretions; many medium prominent strong brown (7.5YR 5/8) iron concentrations; slightly alkaline; abrupt smooth boundary.

R—27 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Reaction is moderately acid to slightly alkaline. The content of rock fragments ranges from 0 to 5 percent in individual horizons.

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

The AB and BA horizons, if they occur, have hue of 10YR, value of 3, and chroma of 1 or 2. They have few or common redox depletions. They are silty clay loam or silty clay.

The Bg horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2. It has few or common iron concentrations in shades of red or brown. It is silty clay or clay.

The Cg horizon has hue of 2.5Y, value of 4 or 5,

and chroma of 1 or 2. It has iron concentrations in shades of red, brown, or yellow. It is clay.

Egam Series

The Egam series consists of very deep, well drained and moderately well drained soils (fig. 16). These soils are on flood plains and in slight depressions. They formed in clayey alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Egam silt loam, frequently flooded; 1.2 miles south on Phillips Road from its intersection with Highway 64, about 0.7 mile northwest of Phillips Road in a pasture (USGS Lewisburg Quadrangle); lat. 35 degrees 28 minutes 59 seconds N. and long. 86 degrees 41 minutes 27 seconds W.

Ap—0 to 11 inches; dark brown (10YR 3/3) silt loam; moderate medium granular and weak medium subangular blocky structure; friable; many fine roots; neutral; clear smooth boundary.

Bw1—11 to 37 inches; very dark grayish brown (10YR 3/2) clay; moderate medium and coarse subangular blocky structure; very firm; few fine black concentrations; neutral; clear smooth boundary.

Bw2—37 to 47 inches; very dark grayish brown (10YR 3/2) clay; few fine distinct dark yellowish brown (10YR 4/6) mottles; weak medium subangular blocky structure; very firm; few fine black concentrations; neutral; gradual smooth boundary.

Bw3—47 to 66 inches; dark brown (10YR 3/3) clay; few fine distinct dark yellowish brown (10YR 4/6) mottles; weak medium subangular blocky structure; very firm; few fine black concentrations; neutral; clear smooth boundary.

Bw4—66 to 72 inches; dark yellowish brown (10YR 4/4) clay; common fine distinct strong brown (7.5YR 4/6) mottles; weak medium subangular blocky structure; very firm; common fine black concentrations; neutral; abrupt smooth boundary.

R—72 inches; limestone bedrock.

The thickness of the solum is 40 inches or more. The depth to limestone bedrock is more than 60 inches. Reaction is moderately acid to neutral, except for below a depth of about 50 inches where it ranges from moderately acid to moderately alkaline.

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

The upper part of the Bw horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3 or hue of 2.5Y and value and chroma of 4. The lower part has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6. It has no mottles, or it has few mottles in shades of brown and gray. The Bw horizon is clay or silty clay.

The C horizon, if it occurs, has hue of 2.5Y, value of 4 or 5, and chroma of 2 to 6. It has few or common mottles in shades of brown and gray. It is clay.

Gladeville Series

The Gladeville series consists of very shallow, well drained soils. These soils are on gently sloping to moderately steep uplands. They formed in clayey residuum derived from thin-bedded limestone. Slopes range from 2 to 15 percent.

Typical pedon of Gladeville channery silty clay loam, in an area of Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst; 8.6 miles northwest of Lewisburg, 9.3 miles north on U.S. Highway 431, about 1.1 miles east on Austin Road, 110 feet north on a farm road, 65 feet north in a thicket (USGS Lewisburg Quadrangle); lat. 35 degrees 34 minutes 24 seconds N. and long. 86 degrees 48 minutes 58 seconds W.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) channery silty clay loam; moderate medium granular structure; firm; common fine and medium roots; about 35 percent channers of limestone; slightly alkaline; clear wavy boundary.

C—7 to 9 inches; dark yellowish brown (10YR 4/4) very flaggy clay; massive; very firm; common fine and medium roots; about 50 percent flagstones; moderately alkaline; abrupt smooth boundary.

R—9 inches; thin-bedded, flaggy limestone.

The thickness of the solum and the depth to bedrock range from 3 to 12 inches. Reaction is neutral to moderately alkaline. The content of limestone fragments that are up to 11 inches in diameter typically ranges from 35 to 50 percent, but in some pedons the content of fragments is as low as 25 percent.

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

The C horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 3 or 4. The fine-earth fraction is silty clay loam or clay.

Godwin Series

The Godwin series consists of very deep, somewhat poorly drained soils. These soils are on nearly level flood plains. They formed in clayey alluvium. Slopes range from 0 to 3 percent.

Typical pedon of Godwin silty clay loam, frequently

flooded; from the community of Chapel Hill, north on U.S. Highway 31A to Crutcher Road, 1.2 miles west on Crutcher Road, 0.4 mile north on Woods Road, 1,000 feet west across a drainageway in a field (USGS Chapel Hill Quadrangle); lat. 35 degrees 39 minutes 45 seconds N. and long. 86 degrees 42 minutes 44 seconds W.

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silty clay loam; weak fine granular structure; friable; many fine roots; neutral; clear smooth boundary.

Bg1—10 to 22 inches; very dark gray (10YR 3/1) silty clay; moderate medium subangular blocky structure parting to moderate fine granular; friable; few fine roots; common fine and medium black concretions; common medium faint dark grayish brown (10YR 4/2) redox depletions; neutral; clear smooth boundary.

Bg2—22 to 34 inches; very dark grayish brown (10YR 3/2) clay; weak medium subangular blocky structure; firm; common fine black concretions; many fine prominent strong brown (7.5YR 5/8) iron concentrations; many medium faint dark gray (10YR 4/1) redox depletions; neutral; gradual smooth boundary.

Cg—34 to 60 inches; dark grayish brown (2.5Y 4/2) clay; massive; many fine prominent strong brown (7.5YR 5/8) iron concentrations; many medium distinct dark grayish brown (10YR 4/2) redox depletions; neutral.

The depth to bedrock is more than 60 inches. Reaction is slightly acid or neutral.

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

The Bg horizon has hue of 10YR, value of 3, and chroma of 1 or 2. It has few or common iron concentrations in shades of red and brown. It is clay or silty clay.

The Cg horizon has hue of 2.5Y, value of 4, and chroma of 2 or hue of 10YR, value of 5, and chroma of 2. It has few or common iron concentrations in shades of red or brown. It is clay.

Hampshire Series

The Hampshire series consists of deep, well drained soils. These soils are on gently sloping to moderately steep uplands. They formed in clayey material weathered from interbedded limestone and shale and the underlying material weathered from interbedded siltstone and sandy limestone. Slopes range from 2 to 20 percent.

Typical pedon of Hampshire silt loam, 5 to 12 percent slopes, eroded; 4.3 miles north of the community of Petersburg on U.S. Highway 431, about 0.3 mile west on Talley Station Road, 0.4 mile north on Fishing Ford Road, 800 feet west on a hilltop (USGS Petersburg Quadrangle); lat. 35 degrees 21 minutes 44 seconds N. and long. 86 degrees 41 minutes 34 seconds W.

Ap—0 to 8 inches; dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to moderate medium granular; friable; many fine roots; few fine black concentrations; strongly acid; clear smooth boundary.

Bt1—8 to 25 inches; dark brown (7.5YR 4/4) clay; few medium prominent yellowish brown (10YR 5/6) mottles; strong medium and coarse subangular blocky structure; very firm; common fine roots; common prominent clay films on faces of peds; common fine and few medium black concentrations; strongly acid; clear wavy boundary.

Bt2—25 to 38 inches; yellowish brown (10YR 5/6) clay; common coarse distinct strong brown (7.5YR 4/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; common prominent clay films on faces of peds; few fine black concentrations; strongly acid; clear wavy boundary.

Bt3—38 to 46 inches; yellowish brown (10YR 5/6) clay loam; common coarse distinct strong brown (7.5YR 4/6) mottles; moderate medium subangular blocky structure; firm; few fine black concentrations; about 15 percent fragments of soft sandy limestone; strongly acid; clear wavy boundary.

Cr—46 to 65 inches; highly weathered, interbedded sandy limestone and siltstone having thin seams of clayey soil material.

The thickness of the solum ranges from 30 to 50 inches. The depth to bedrock ranges from 40 to 60 inches. Reaction ranges from very strongly acid to moderately acid. The content of rock fragments ranges from 0 to 15 percent in the A and Bt horizons and from 0 to 20 percent in the BC and C horizons, if they occur.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 to 6. It is silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is silty clay loam or clay.

The BC and C horizons, if they occur, have the same colors as the Bt horizon. The fine-earth fraction is clay, clay loam, or loam.

The Cr horizon is highly weathered, interbedded

sandy limestone and siltstone having thin seams of clay.

Harpeth Series

The Harpeth series consists of very deep, well drained soils. These soils are on undulating or rolling high stream terraces and uplands. They formed in a 2- to 3-foot-thick mantle of silty material and the underlying old alluvium or limestone residuum. Slopes range from 2 to 12 percent.

Typical pedon of Harpeth silt loam, 2 to 5 percent slopes; north on U.S. Highway 31A from Henry Horton State Park, west on State Highway 99, northeast on old State Highway 99, about 1.4 miles north on Thick Road, 40 feet west in a field (USGS Chapel Hill Quadrangle); lat. 35 degrees 38 minutes 43 seconds N. and long. 86 degrees 44 minutes 11 seconds W.

Ap—0 to 9 inches; dark brown (7.5YR 3/4) silt loam; moderate medium granular structure; very friable; many fine roots; few fine black and brown concentrations; neutral; abrupt smooth boundary.

Bt1—9 to 24 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common faint clay films on faces of peds; common fine black and brown concentrations; slightly acid; gradual smooth boundary.

Bt2—24 to 45 inches; yellowish red (5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common fine and few medium black and brown concentrations; strongly acid; gradual smooth boundary.

Bt3—45 to 60 inches; yellowish red (5YR 5/6) silty clay loam; few medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; firm; common faint clay films on faces of peds; common fine black and brown concentrations; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction ranges from strongly acid to slightly acid. The content of rock fragments ranges from 0 to 10 percent in individual horizons.

The Ap horizon typically has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 4. In some pedons it is less than 7 inches thick and has value and chroma of 3. The Ap horizon is silt loam.

The Bt horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. In some pedons it has few or common mottles in shades of brown. The Bt horizon is silty clay loam.

The 2Bt horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 4 or 6. In some pedons it has few or common mottles in shades of brown. The 2Bt horizon is silty clay loam or clay.

Hawthorne Series

The Hawthorne series consists of moderately deep, somewhat excessively drained soils (fig. 17). These soils are on ridgetops and steep hillsides of the Highland Rim geological formation. They formed in material weathered from interbedded limestone and siltstone. Slopes range from 5 to 55 percent.

Typical pedon of Hawthorne gravelly silt loam, in an area of Hawthorne and Dellrose association, 25 to 55 percent slopes; 5.9 miles south on Springplace Road from its intersection with Ellington Parkway, 1.0 mile east on Bryant Hollow Road, 0.75 mile on Pigg Hollow Road, on the south road cut (USGS Petersburg Quadrangle); lat. 35 degrees 21 minutes 19 seconds N. and long. 86 degrees 43 minutes 37 seconds W.

A—0 to 2 inches; dark brown (10YR 3/3) gravelly silt loam; weak medium granular structure; very friable; many fine and few medium roots; about 16 percent angular fragments; strongly acid; clear wavy boundary.

BA—2 to 7 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak medium subangular blocky structure; very friable; many fine and few medium roots; about 25 percent angular fragments; strongly acid; clear wavy boundary.

BE—7 to 15 inches; yellowish brown (10YR 5/4) very gravelly silt loam; weak medium subangular blocky structure; friable; common fine and few medium roots; about 40 percent angular fragments; strongly acid; clear wavy boundary.

Bt—15 to 28 inches; strong brown (7.5YR 5/6) very gravelly silty clay loam; common fine distinct yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; about 45 percent fragments of chert and siltstone; very strongly acid; clear wavy boundary.

Cr—28 inches; highly weathered, interbedded limestone and siltstone having thin seams of clayey soil material.

The thickness of the solum ranges from 15 to 40 inches. The depth to rippable bedrock ranges from 20 to 40 inches. Reaction is extremely acid to strongly acid. The content of rock fragments that are up to 10 inches in diameter ranges from 10 to 30 percent in the A horizon and from 35 to 60 percent in the B and C horizons.

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

The E horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. The fine-earth fraction is silt loam.

The Bw and Bt horizons, if they occur, have hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. They are mottled in shades of brown and yellow. The fine-earth fraction is silt loam or silty clay loam.

The Cr horizon is made up of rippable layers of fractured, hard, angular chert and highly weathered siltstone interbedded with thin lenses of silt loam or silty clay loam soil material. The highly weathered siltstone can be dug with a spade, but the hard chert layers are more difficult to excavate.

Lindell Series

The Lindell series consists of very deep, moderately well drained soils. These soils are on nearly level flood plains along the smaller streams. They formed in loamy alluvium. Slopes range from 0 to 2 percent.

Typical pedon of Lindell silt loam, frequently flooded; south of Lewisburg, 2.4 miles south on U.S. Highway 31A from its intersection with Ellington Parkway, 200 feet east in a pasture (USGS Lewisburg Quadrangle); lat. 35 degrees 23 minutes 41 seconds N. and long. 86 degrees 48 minutes 47 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; many fine roots; slightly acid; clear smooth boundary.

Bw1—6 to 20 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common fine roots; slightly acid; clear smooth boundary.

Bw2—20 to 29 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; few fine roots; common medium distinct grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) redox depletions; slightly acid; clear smooth boundary.

Bg—29 to 43 inches; dark grayish brown (10YR 4/2) loam; weak medium subangular blocky structure; friable; many medium faint grayish brown (10YR 5/2) redox depletions; about 2 percent rounded fragments; slightly acid; clear smooth boundary.

Cg1—43 to 51 inches; grayish brown (10YR 5/2) clay loam; massive; many medium faint gray (10YR 5/1) redox depletions; about 10 percent rounded fragments; neutral; clear smooth boundary.

Cg2—51 to 60 inches; gray (10YR 5/1) gravelly clay loam; massive; common medium prominent brown (7.5YR 4/4) iron concentrations; about 20 percent rounded fragments; neutral.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. Reaction ranges from moderately acid to neutral. The content of rock fragments 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.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. If the horizon has value of 3, it is less than 7 inches thick. The Ap horizon typically is silt loam or, less commonly, loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. The lower part of the Bw horizon has redoximorphic features in shades of gray or brown. The Bw horizon is silt loam or loam.

The Bg horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. It has redoximorphic features in shades of gray and brown. It is silt loam or loam.

The Cg horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. In some pedons it does not have a dominant matrix color but is evenly mottled in shades of brown and gray. The Cg horizon is loam, clay loam, or gravelly clay loam.

Marsh Series

The Marsh series consists of moderately deep, well drained soils. These soils are on moderately steep or steep uplands that have deeply dissected side slopes and narrow ridge crests. They formed in colluvium and residuum derived from thin-bedded sandy limestone interbedded with siltstone and shale.

Typical pedon of Marsh silt loam, in an area of Marsh-Stiversville complex, 15 to 35 percent slopes, severely eroded; from the community of Mooresville, 0.8 mile north on Fitzpatrick Road from its intersection with Highway 50, about 1,000 feet northwest on a hillside (USGS Culleoka Quadrangle); lat. 35 degrees 27 minutes 08 seconds N. and long. 86 degrees 55 minutes 05 seconds W.

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

BE—3 to 11 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; about 10 percent fragments of sandy limestone; strongly acid; clear wavy boundary.

Bt—11 to 19 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine and few medium and coarse

roots; few faint clay films on faces of peds; about 10 percent fragments of sandy limestone; very strongly acid; clear wavy boundary.

CB—19 to 23 inches; yellowish brown (10YR 5/6) very channery loam; weak medium subangular blocky structure; friable; few fine roots; about 50 percent sandy limestone fragments; strongly acid; abrupt wavy boundary.

Cr—23 to 35 inches; highly weathered, interbedded siltstone and sandy limestone having thin strata of clayey soil material.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Reaction ranges from slightly acid to very strongly acid. The content of rock fragments, which are generally soft sandy limestone or siltstone, ranges from 0 to 15 percent in the A horizon, from 0 to 35 percent in the B horizon, and from 10 to 50 percent in the C horizon.

The A horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 3 or 4. It is loam or silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 6. It has no mottles, or it has few mottles in shades of red or brown. It typically is loam, silt loam, silty clay loam, or the channery or flaggy analogs of those textures. In some pedons the lower part of the B horizon is clay loam or silty clay.

The C horizon, if it occurs, has colors in shades of red, brown, olive, or gray. It is loam, silt loam, silty clay loam, clay loam, silty clay, or the channery or flaggy analogs of those textures.

The Cr horizon is highly weathered, interbedded siltstone and sandy limestone having thin strata of clayey soil material.

Mimosa Series

The Mimosa series consists of deep, well drained soils. These soils are on rolling to steep uplands. They formed in clayey limestone residuum. Slopes range from 5 to 35 percent.

Typical pedon of Mimosa silt loam, 20 to 35 percent slopes, eroded; 6.81 miles southeast of Cornersville, 4.1 miles east of the intersection of U.S. Highway 31A and State Highway 129, about 1.2 miles south on Coffey Road, 2.4 miles south on Ebenezer Road, 2,000 feet across a ridge in an area of woodland (USGS Cornersville Quadrangle); lat. 35 degrees 16 minutes 15 seconds N. and long. 86 degrees 47 minutes 32 seconds W.

A—0 to 5 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; common fine and few medium roots; about 3 percent angular fragments; moderately acid; clear smooth boundary.

Bt1—5 to 24 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky structure; very firm; few fine and medium roots; common faint clay films on faces of peds; about 3 percent angular fragments; moderately acid; gradual smooth boundary.

Bt2—24 to 37 inches; yellowish brown (10YR 5/8) clay; common medium distinct light olive brown (2.5Y 5/6) mottles; moderate medium angular blocky structure; very firm; few fine roots; few faint clay films on faces of peds; about 2 percent fragments; moderately acid; gradual smooth boundary.

BC—37 to 45 inches; yellowish brown (10YR 5/6) clay; common fine distinct light olive brown (2.5Y 5/4) mottles; weak medium subangular blocky structure parting to very fine angular blocky; very firm; about 3 percent fragments; moderately acid; clear smooth boundary.

C—45 to 52 inches; light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) clay; massive; slightly acid; abrupt smooth boundary.

R—52 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock range from 40 to 60 inches. Reaction ranges from very strongly acid to moderately acid, except the layer directly above the bedrock ranges to slightly alkaline. The content of rock fragments ranges from 0 to 25 percent in the surface layer and from 0 to 5 percent below the surface layer.

The A or Ap horizon has hue of 10YR or 7.5YR and value and chroma of 3 or 4. If the horizon has value of 3, it is less than 7 inches thick. The A or Ap horizon is silt loam, silty clay loam, or gravelly silt loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 6 or 8. It is mottled in shades of brown. It is silty clay or clay.

The BC and C horizons have hue of 10YR or 2.5Y, value of 5, and chroma of 4 or 6. They are mottled in shades of brown and gray. They are clay.

Nesbitt Series

The Nesbitt series consists of very deep, moderately well drained soils. These soils are on gently sloping uplands and old stream terraces. They formed in silty alluvium and the underlying limestone residuum. Slopes range from 2 to 5 percent.

Typical pedon of Nesbitt silt loam, 2 to 5 percent

slopes; 0.75 mile east on Finley Beech Road from its intersection with Farmington Road, 0.7 mile south on Simpson Road, 0.4 mile east of Simpson Road, in a hayfield (USGS Lewisburg Quadrangle); lat. 35 degrees 26 minutes 03 seconds N. and long. 86 degrees 40 minutes 28 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium granular structure; friable; common fine roots; few fine black concentrations; neutral; clear smooth boundary.

Bt1—7 to 21 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium distinct light yellowish brown (10YR 6/4) and moderate medium distinct yellowish red (5YR 4/6) mottles; weak medium prismatic structure parting to weak medium subangular blocky; firm; few fine roots; few faint clay films on faces of peds; many fine and medium black concentrations; moderately acid; clear smooth boundary.

Bt2—21 to 40 inches; strong brown (7.5YR 5/8) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few faint clay films on faces of peds; common fine and medium black concentrations; common medium prominent pale brown (10YR 6/3) and common medium prominent light gray (10YR 7/2) redox depletions; common medium prominent red (2.5YR 4/8) iron concentrations; slightly brittle in 25 percent of the mass; strongly acid; clear smooth boundary.

2Bt3—40 to 75 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common fine and medium black concentrations; common medium distinct red (2.5YR 4/8) iron concentrations; common medium distinct light brownish gray (10YR 6/2) redox depletions; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is moderately acid or strongly acid. The content of fragments ranges from 0 to 5 percent in the Ap and Bt horizons and from 0 to 10 in the 2Bt horizon.

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

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. In most pedons it is mottled throughout in shades of red and brown. The lower part of the horizon has redox depletions in shades of gray. It commonly is brittle in about 25 percent of the mass. The Bt horizon is silty clay loam.

The 2Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 6 to 8. It has redoximorphic features in shades of red and gray. It is clay.

Stiversville Series

The Stiversville series consists of deep, well drained soils. These soils are on gently sloping to steep uplands. They formed in siltstone residuum and fine grained sandstone interbedded with limestone and shale. Slopes range from 2 to 30 percent.

Typical pedon of Stiversville loam, 2 to 5 percent slopes; 4.3 miles southwest of Lewisburg, 0.9 mile south from the intersection of Ellington Parkway and U.S. Highway 31A, 0.8 mile west on Hobo-Shaw Road, 300 feet southeast in a field (USGS Lewisburg Quadrangle); lat. 35 degrees 23 minutes 45 seconds N. and long. 86 degrees 49 minutes 44 seconds W.

Ap—0 to 9 inches; dark yellowish brown (10YR 4/4) loam; weak medium granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—9 to 22 inches; strong brown (7.5YR 4/6) clay loam; weak medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—22 to 36 inches; strong brown (7.5YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt3—36 to 45 inches; strong brown (7.5YR 4/6) clay loam; moderate medium subangular blocky structure; firm; about 10 percent channers; moderately acid; gradual smooth boundary.

C—45 to 54 inches; strong brown (7.5YR 5/6) channery clay loam; massive; about 20 percent channers; strongly acid; clear smooth boundary.

Cr—54 inches; highly weathered siltstone and fine grained sandstone interbedded with shale and limestone.

The thickness of the solum and the depth to rippable bedrock range from 40 to 60 inches. Reaction is moderately acid or strongly acid. The content of rock fragments ranges from 0 to 15 percent in the A and Bt horizons and from 5 to 25 percent in the C horizon.

The Ap horizon has hue of 10YR or 7.5YR and value and chroma of 3 or 4. It is loam or silt loam.

The Bt horizon typically has hue of 7.5YR, value of 4 or 5, and chroma of 4 or 6; however, in some pedons the lower part of the horizon has hue of 10YR or 5YR. The Bt horizon is clay loam or loam.

The BC and C horizons, if they occur, have hue of 7.5YR, value of 4 or 5, and chroma of 4 or 6. They are clay loam, loam, channery loam, or channery clay loam.

The Cr horizon is highly weathered siltstone and fine grained sandstone that is interbedded with thin strata of shale and limestone.

Talbott Series

The Talbott series consists of moderately deep, well drained soils. These soils are on gently sloping to moderately steep uplands. They formed in clayey limestone residuum. Slopes range from 2 to 15 percent.

Typical pedon of Talbott silt loam, 2 to 5 percent slopes, rocky; 4.2 miles northwest of Chapel Hill, 2.6 miles west of the intersection of U.S. Highway 31A and old State Highway 99, about 2.3 miles north on Thick Road, 1.03 miles east of the intersection of Thick Road and Wilson Road, 1,260 feet north of Wilson Road in a field (USGS Chapel Hill Quadrangle); lat. 35 degrees 40 minutes 06 seconds N. and long. 86 degrees 44 minutes 49 seconds W.

Ap—0 to 7 inches; brown (7.5YR 4/4) silt loam; moderate medium granular structure; friable; many fine roots; moderately acid; clear wavy boundary.

Bt1—7 to 18 inches; yellowish red (5YR 4/6) clay; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films on faces of peds; common fine dark brown concentrations; strongly acid; clear wavy boundary.

Bt2—18 to 23 inches; yellowish red (5YR 5/8) clay; moderate medium subangular blocky structure; firm; common fine roots; few faint clay films on faces of peds; few fine dark brown concentrations; moderately acid; clear smooth boundary.

C—23 to 32 inches; light olive brown (2.5Y 5/4) clay; many fine prominent yellowish brown (10YR 5/8) and few fine prominent yellowish red (5YR 5/8) mottles; massive; firm; few fine roots; many fine dark brown concentrations; about 3 percent rock fragments; neutral; abrupt smooth boundary.

R—32 inches; hard limestone bedrock.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Reaction is strongly acid to slightly acid, except the horizon directly above the bedrock ranges to slightly alkaline. The content of rock fragments ranges from 0 to 5 percent in individual horizons.

The Ap or A horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 3 or 4. It typically is silt loam, but in severely eroded areas, it is silty clay loam.

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

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons it has mottles in shades of brown and red. It is silty clay or clay.

The BC and C horizons, if they occur, have hue of 2.5Y to 7.5YR, value of 4 or 5, and chroma of 4 to 8. They have mottles in shades of brown and red. They are silty clay or clay.

Tupelo Series

The Tupelo series consists of very deep, somewhat poorly drained soils. These soils are on low stream terraces. They formed in clayey alluvium or in a thin layer of alluvium and the underlying clayey residuum. Slopes range from 0 to 3 percent.

Typical pedon of Tupelo silt loam, occasionally flooded; 4.1 miles east on Lebanon Road from its intersection with U.S. Highway 31A, about 0.8 mile north on Hooper Cemetery Road, 275 feet east across a stream (USGS Lewisburg Quadrangle); lat. 35 degrees 32 minutes 54 seconds N. and long. 86 degrees 40 minutes 34 seconds W.

Ap—0 to 5 inches; brown (10YR 5/3) silt loam; common fine distinct light yellowish brown (10YR 6/4) mottles; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—5 to 12 inches; light yellowish brown (2.5Y 6/4) silty clay loam; common fine prominent brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few fine roots; common fine and medium black concretions; strongly acid; clear smooth boundary.

Bt2—12 to 23 inches; light yellowish brown (2.5Y 6/4) clay; common fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; firm; many fine and medium black concretions; common fine distinct light brownish gray (10YR 6/2) redox depletions; strongly acid; clear smooth boundary.

Btg3—23 to 41 inches; light brownish gray (2.5Y 6/2) clay; weak medium subangular blocky structure; very firm; common fine and medium concretions; many medium prominent yellowish brown (10YR 5/6) iron concentrations; about 4 percent fragments; strongly acid; gradual smooth boundary.

Cg—41 to 60 inches; gray (5Y 6/1) clay; massive; common fine and medium concretions; common medium prominent yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) iron concentrations; about 4 percent rock fragments; strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. The depth to bedrock is more than 60 inches. Reaction is strongly acid or moderately acid. The content of rock fragments is less than 5 percent in individual horizons.

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

The Bt horizon has hue of 10YR or 2.5Y and value and chroma of 4 or 6. In some pedons the lower part of the Bt horizon has redox depletions with chroma of 1 or 2. The number of iron concentrations in shades of brown and olive are few or common. The Bt horizon is silty clay loam, silty clay, or clay.

The Btg, BCg, and Cg horizons, if they occur, have hue of 10YR to 5Y or are neutral. They have value of 5 to 7 and chroma of 0 to 2. They are clay.

Waynesboro Series

The Waynesboro series consists of very deep, well drained soils. These soils are on undulating or rolling high stream terraces. They formed in old alluvium. Slopes range from 2 to 12 percent.

Typical pedon of Waynesboro silt loam, 5 to 12 percent slopes, eroded; 0.8 mile south on U.S. Highway 31A from the Henry Horton State Park headquarters, about 1.1 miles west on Coble Road, 1,850 feet west in a pasture on a hilltop (USGS Lewisburg Quadrangle); lat. 35 degrees 34 minutes 51 seconds N. and long. 86 degrees 43 minutes 36 seconds W.

Ap—0 to 6 inches; dark reddish brown (5YR 3/4) silt loam; weak medium and fine granular structure; very friable; many fine roots; about 2 percent fragments; moderately acid; abrupt smooth boundary.

Bt1—6 to 27 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common fine black concentrations; about 2 percent fragments; strongly acid; gradual smooth boundary.

Bt2—27 to 60 inches; red (2.5YR 5/8) clay loam; common medium prominent yellowish brown (10YR 5/6) and few medium distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common fine black concentrations; about 2 percent fragments; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is very strongly acid or strongly acid. The content of chert and quartzite pebbles ranges from 0 to 15 percent in individual horizons, except for in the surface layer where it ranges from 0 to 25 percent.

The Ap horizon has hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 4 or 6. It is silt loam or loam.

The Bt horizon has hue of 5YR or 2.5YR, value of 3 to 5, and chroma of 6 or 8. It is mottled in shades of brown, red, and yellow. It is clay loam or clay.

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Glossary

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.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

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

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.

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

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

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

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.

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.

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.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

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.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

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.

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.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

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.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

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

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

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).

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

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.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

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.

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.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

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.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

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.

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 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.

Pebble. A rounded or angular fragment of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. A collection of pebbles is referred to as gravel.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Percolation. The movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

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.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the 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.

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.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed 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.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

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.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

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.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

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
Strongly sloping	5 to 15 percent
Moderately steep	12 to 20 percent
Steep	20 to 60 percent

Classes for complex slopes are as follows:

Nearly level	0 to 3 percent
Undulating	2 to 5 percent
Rolling	5 to 15 percent
Hilly	12 to 20 percent
Steep	20 to 60 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

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 grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

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."

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."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

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.

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.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1951-90 at Lewisburg, Tennessee.)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	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 snow-fall
	° F	° F	° F	° F	° F	Units	In	In	In		In
January--	46.0	24.9	35.5	70	-4	20	4.87	2.23	6.75	8	3.0
February-	50.2	27.4	38.8	74	2	27	4.54	2.43	6.05	8	.6
March----	59.2	35.6	47.4	79	15	99	5.93	3.16	8.13	8	.2
April----	70.1	45.1	57.6	87	25	245	4.77	2.56	6.62	8	.0
May------	78.0	53.3	65.7	91	33	487	5.13	2.50	7.48	7	.0
June-----	85.3	61.7	73.5	97	44	705	3.66	1.60	5.40	7	.0
July-----	88.6	66.0	77.3	98	52	846	4.76	2.15	6.95	8	.0
August---	88.5	64.4	76.5	98	50	822	3.19	1.54	4.33	6	.0
September	82.6	57.9	70.3	96	37	609	3.85	1.49	5.78	6	.0
October--	72.1	44.9	58.5	88	25	284	3.44	1.44	5.07	5	.0
November-	59.9	36.0	48.0	80	14	70	4.69	2.34	6.75	7	.5
December-	49.8	28.4	39.1	72	5	27	4.86	2.19	6.75	7	.7
Yearly:											
Average-	69.2	45.5	57.4	---	---	---	---	---	---	---	---
Extreme-	---	---	---	100	-6	---	---	---	---	---	---
Total---	---	---	---	---	---	4,241	53.69	46.09	61.34	85	5.0

* 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 1951-90 at Lewisburg, Tennessee.)

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	Apr. 18	May 2
2 years in 10 later than--	Apr. 5	Apr. 13	Apr. 26
5 years in 10 later than--	Mar. 22	Apr. 3	Apr. 16
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 27	Oct. 14	Oct. 5
2 years in 10 earlier than--	Nov. 1	Oct. 20	Oct. 10
5 years in 10 earlier than--	Nov. 11	Oct. 30	Oct. 19

Table 3.--Growing Season

(Recorded in the period 1951-90 at Lewisburg, 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	190	166
8 years in 10	218	197	173
5 years in 10	233	209	186
2 years in 10	249	221	199
1 year in 10	257	227	205

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AmB	Armour silt loam, 2 to 5 percent slopes	7,724	3.2
AmC2	Armour silt loam, 5 to 12 percent slopes, eroded	1,719	0.7
Ar	Arrington silt loam, frequently flooded	3,969	1.6
AsC	Ashwood-Mimosa-Rock outcrop complex, 5 to 15 percent slopes	5,937	2.5
AsE	Ashwood-Mimosa-Rock outcrop complex, 15 to 35 percent slopes	7,046	2.9
BaC	Barfield-Ashwood-Rock outcrop complex, 5 to 20 percent slopes	8,239	3.4
BaE	Barfield-Ashwood-Rock outcrop complex, 20 to 40 percent slopes	7,077	2.9
BrB2	Bradyville silt loam, 2 to 5 percent slopes, eroded	2,849	1.2
BrC2	Bradyville silt loam, 5 to 12 percent slopes, eroded	882	0.4
BtB2	Braxton silt loam, 2 to 5 percent slopes, eroded	10,327	4.3
BtC2	Braxton silt loam, 5 to 12 percent slopes, eroded	2,373	1.0
BxC2	Braxton-Talbott-Rock outcrop complex, 2 to 12 percent slopes, eroded	9,467	3.9
CaB	Capshaw silt loam, 2 to 5 percent slopes	6,461	2.7
DeC2	Dellrose gravelly silt loam, 5 to 12 percent slopes, eroded	1,629	0.7
DeD2	Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded	1,190	0.5
DeE	Dellrose gravelly silt loam, 20 to 45 percent slopes	344	0.1
Ea	Eagleville silty clay loam, frequently flooded	770	0.3
Eg	Egam silt loam, frequently flooded	5,249	2.2
GaC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes, karst	8,110	3.4
Gd	Godwin silt loam, frequently flooded	200	*
Go	Godwin silty clay loam, frequently flooded	1,789	0.7
HaB2	Hampshire silt loam, 2 to 5 percent slopes, eroded	661	0.3
HaC2	Hampshire silt loam, 5 to 12 percent slopes, eroded	3,651	1.5
HaC3	Hampshire silty clay loam, 5 to 12 percent slopes, severely eroded	1,687	0.7
HaD2	Hampshire silt loam, 12 to 20 percent slopes, eroded	2,068	0.9
HaD3	Hampshire silty clay loam, 12 to 20 percent slopes, severely eroded	1,067	0.4
HrB	Harpeth silt loam, 2 to 5 percent slopes	6,268	2.6
HrC2	Harpeth silt loam, 5 to 12 percent slopes, eroded	412	0.2
HtC	Hawthorne gravelly silt loam, 5 to 15 percent slopes	4,442	1.8
HtE	Hawthorne gravelly silt loam, 15 to 45 percent slopes	214	*
HWE	Hawthorne and Dellrose association, 25 to 55 percent slopes	23,965	9.9
Ln	Lindell silt loam, frequently flooded	3,257	1.4
MaE3	Marsh-Stiversville complex, 15 to 35 percent slopes, severely eroded	5,530	2.3
MmC2	Mimosa silt loam, 5 to 12 percent slopes, eroded	4,805	2.0
MmD2	Mimosa silt loam, 12 to 20 percent slopes, eroded	1,766	0.7
MmE	Mimosa silt loam, 20 to 35 percent slopes	200	*
MmE2	Mimosa silt loam, 20 to 35 percent slopes, eroded	1,487	0.6
MoC2	Mimosa gravelly silt loam, 5 to 12 percent slopes, eroded	1,683	0.7
MoD2	Mimosa gravelly silt loam, 12 to 20 percent slopes, eroded	2,924	1.2
MoE2	Mimosa gravelly silt loam, 20 to 35 percent slopes, eroded	5,707	2.4
NeB	Nesbitt silt loam, 2 to 5 percent slopes	2,027	0.8
Pt	Pits, quarries	352	0.1
RoC	Rock outcrop-Talbott complex, 2 to 12 percent slopes	3,845	1.6
StB	Stiversville loam, 2 to 5 percent slopes	1,355	0.6
StC2	Stiversville loam, 5 to 12 percent slopes, eroded	2,942	1.2
StD2	Stiversville loam, 12 to 20 percent slopes, eroded	1,137	0.5
TaB2	Talbott silt loam, 2 to 5 percent slopes, eroded	10,991	4.6
TaC2	Talbott silt loam, 5 to 12 percent slopes, eroded	3,845	1.6
TbB	Talbott silt loam, 2 to 5 percent slopes, rocky	3,439	1.4
TtC	Talbott-Rock outcrop complex, 2 to 15 percent slopes	38,322	15.9
Tu	Tupelo silt loam, occasionally flooded	2,164	0.9
Ub	Urban land	2,466	1.0
WaB2	Waynesboro silt loam, 2 to 5 percent slopes, eroded	1,018	0.4
WaC2	Waynesboro silt loam, 5 to 12 percent slopes, eroded	1,952	0.8
	Total	241,000	100.0**

* Less than 0.1 percent.
** Because of rounding, the total of the percentages shown does not equal 100.0 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	Corn	Soybeans	Tobacco	Wheat	Alfalfa hay	Tall fescue-ladino
		Bu	Bu	Lbs	Bu	Tons	AUM
AmB---------- Armour	2e	115	43	2,900	53	4.00	8.00
AmC2---------- Armour	3e	100	38	2,550	50	3.50	7.00
Ar---------- Arrington	3w	---	38	---	---	---	7.50
AsC---------- Ashwood-Mimosa-Rock outcrop	6s	---	---	---	---	---	5.50
AsE---------- Ashwood-Mimosa-Rock outcrop	7s	---	---	---	---	---	4.50
BaC---------- Barfield-Ashwood-Rock outcrop	6s	---	---	---	---	---	3.50
BaE---------- Barfield-Ashwood-Rock outcrop	7s	---	---	---	---	---	---
BrB2---------- Bradyville	2e	80	30	1,850	48	3.30	6.50
BrC2---------- Bradyville	3e	70	25	1,800	44	3.00	6.00
BtB2---------- Braxton	2e	80	30	1,950	45	3.50	7.00
BtC2---------- Braxton	3e	70	25	1,750	40	3.00	6.50
BxC2---------- Braxton-Talbott-Rock outcrop	6s	---	---	---	---	---	5.00
CaB---------- Capshaw	2e	75	30	2,000	45	---	6.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat	Alfalfa hay	Tall fescue-ladino
		Bu	Bu	Lbs	Bu	Tons	AUM
DeC2 Dellrose	3e	80	30	2,100	40	---	6.50
DeD2 Dellrose	4e	70	25	1,900	30	---	5.50
DeE Dellrose	6e	---	---	---	---	---	5.00
Ea Eagleville	4w	---	25	---	---	---	5.00
Eg Egam	3w	65	35	---	---	---	7.00
GaC Gladeville-Rock outcrop	7s	---	---	---	---	---	---
Gd Godwin	4w	---	35	---	---	---	7.50
Go Godwin	4w	---	35	---	---	---	7.50
HaB2 Hampshire	2e	80	---	---	45	3.00	6.00
HaC2 Hampshire	3e	70	---	---	42	3.00	5.50
HaC3 Hampshire	4e	---	---	---	38	---	5.00
HaD2 Hampshire	4e	---	---	---	---	---	4.50
HaD3 Hampshire	6e	---	---	---	---	---	4.00
HrB Harpeth	2e	120	35	2,300	45	3.80	7.50
HrC2 Harpeth	3e	90	25	2,100	35	3.00	7.00
HtC Hawthorne	4s	---	---	---	---	---	4.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat	Alfalfa hay	Tall fescue-ladino
		Bu	Bu	Lbs	Bu	Tons	AUM
HtE---------- Hawthorne	7s	---	---	---	---	---	---
HWE---------- Hawthorne-Dellrose	7s	---	---	---	---	---	---
Ln---------- Lindell	3w	---	35	---	---	---	7.50
MaE3---------- Marsh-Stiversville	6s	---	---	---	---	---	4.00
MmC2---------- Mimosa	4e	---	---	---	40	---	4.00
MmD2---------- Mimosa	6e	---	---	---	---	---	3.00
MmE---------- Mimosa	7e	---	---	---	---	---	3.50
MmE2---------- Mimosa	7e	---	---	---	---	---	3.00
MoC2---------- Mimosa	4e	---	---	---	40	---	4.00
MoD2---------- Mimosa	6e	---	---	---	---	---	3.50
MoE2---------- Mimosa	7e	---	---	---	---	---	3.00
NeB---------- Nesbitt	2e	80	35	2,000	45	---	7.00
Pt. Pits, quarries							
RoC---------- Rock outcrop-Talbott	7s	---	---	---	---	---	---
StB---------- Stiversville	2e	85	35	2,250	45	2.50	7.00
StC2---------- Stiversville	3e	70	28	1,950	40	2.00	6.50

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat	Alfalfa hay	Tall fescue-ladino
		Bu	Bu	Lbs	Bu	Tons	AUM
StD2---------- Stiversville	4e	60	23	1,700	35	---	6.00
TaB2---------- Talbott	3e	55	25	1,600	40	---	4.50
TaC2---------- Talbott	4e	---	---	---	35	---	4.00
TbB---------- Talbott	3e	---	---	---	---	---	5.00
TtC---------- Talbott-Rock outcrop	6s	---	---	---	---	---	4.50
Tu---------- Tupelo	3w	---	35	---	---	---	7.00
Ub. Urban land							
WaB2---------- Waynesboro	2e	100	35	2,400	50	3.00	7.50
WaC2---------- Waynesboro	3e	90	30	2,200	50	3.00	7.00

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
BrB2	Bradyville silt loam, 2 to 5 percent slopes, eroded
BtB2	Braxton silt loam, 2 to 5 percent slopes, eroded
CaB	Capshaw silt loam, 2 to 5 percent slopes
HaB2	Hampshire silt loam, 2 to 5 percent slopes, eroded
HrB	Harpeth silt loam, 2 to 5 percent slopes
NeB	Nesbitt silt loam, 2 to 5 percent slopes
StB	Stiversville loam, 2 to 5 percent slopes
WaB2	Waynesboro silt loam, 2 to 5 percent slopes, eroded

Table 7.--Woodland Management and Productivity

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
AmB:									
Armour	Slight	Slight	Slight	Slight	Moderate	loblolly pine	77	100	loblolly pine, southern red oak, white oak, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
AmC2:									
Armour	Slight	Slight	Slight	Slight	Moderate	loblolly pine	77	100	loblolly pine, southern red oak, white oak, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
Ar:									
Arrington	Slight	Slight	Moderate	Slight	Severe	loblolly pine	90	129	southern red oak, loblolly pine, yellow poplar, white oak
						southern red oak	80	57	
						white oak	80	57	
						yellow poplar	100	114	
AsC:									
Ashwood	Slight	Slight	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Mimosa	Slight	Slight	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Rock outcrop.									
AsE:									
Ashwood	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Mimosa	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Rock outcrop.									
BaC:									
Barfield	Slight	Slight	Moderate	Severe	Moderate	eastern redcedar	40	43	eastern redcedar

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
BaC:									
Ashwood	Slight	Slight	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Rock outcrop.									
BaE:									
Barfield	Moderate	Moderate	Moderate	Severe	Moderate	eastern redcedar	40	43	eastern redcedar
Ashwood	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
Rock outcrop.									
BrB2:									
Bradyville	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	40	43	loblolly pine, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
BrC2:									
Bradyville	Moderate	Slight	Slight	Slight	Moderate	eastern redcedar	40	43	loblolly pine, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
BtB2:									
Braxton	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	70	57	
BtC2:									
Braxton	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	70	57	
BxC2:									
Braxton	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						northern red oak	70	57	

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
BxC2:									
Talbott	Slight	Slight	Moderate	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	65	43	
						shortleaf pine	64	100	
Rock outcrop.									
CaB:									
Capshaw	Slight	Slight	Slight	Slight	---	loblolly pine	80	114	loblolly pine, shortleaf pine, yellow poplar
						southern red oak	70	57	
						yellow poplar	90	86	
DeC2:									
Dellrose	Slight	Slight	Slight	Slight	Moderate	loblolly pine	90	129	black walnut, loblolly pine, yellow poplar
						southern red oak	76	57	
						yellow poplar	98	100	
DeD2:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	loblolly pine	90	129	black walnut, loblolly pine, yellow poplar
						southern red oak	76	57	
						yellow poplar	98	100	
DeE:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	loblolly pine	90	129	black walnut, loblolly pine, yellow poplar
						southern red oak	76	57	
						yellow poplar	98	100	
Ea:									
Eagleville	Slight	Moderate	Severe	Slight	Severe	eastern cottonwood	100	129	cherrybark oak, eastern cottonwood, sweetgum, yellow poplar
						sweetgum	90	100	
						water oak	90	86	
Eg:									
Egam	Slight	Moderate	Severe	Slight	Severe	loblolly pine	90	129	loblolly pine, yellow poplar
						southern red oak	80	57	
						water oak	90	86	
						yellow poplar	100	114	
GaC:									
Gladeville	Slight	Moderate	Severe	Severe	Slight	eastern redcedar	35	29	eastern redcedar

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Suggested trees to plant
GaC:									
Rock outcrop.									
Gd:									
Godwin	Slight	Moderate	Severe	Slight	Moderate	eastern cottonwood	100	129	cherrybark oak, eastern cottonwood, sweetgum, yellow poplar
						green ash	85	90	
						sweetgum	90	100	
						water oak	90	86	
Go:									
Godwin	Slight	Moderate	Severe	Slight	Moderate	eastern cottonwood	100	129	cherrybark oak, eastern cottonwood, sweetgum, yellow poplar
						green ash	85	90	
						sweetgum	90	100	
						water oak	90	86	
HaB2:									
Hampshire	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	80	114	
						southern red oak	70	57	
HaC2:									
Hampshire	Moderate	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	80	114	
						southern red oak	70	57	
HaC3:									
Hampshire	Moderate	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	80	114	
						southern red oak	70	57	
HaD2:									
Hampshire	Severe	Moderate	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	80	114	
						southern red oak	70	57	
HaD3:									
Hampshire	---	---	---	---	---	loblolly pine	80	114	loblolly pine, yellow poplar
						southern red oak	70	57	

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
HrB:									
Harpeth	Slight	Slight	Slight	Slight	Moderate	loblolly pine	77	100	loblolly pine, southern red oak, white oak, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
HrC2:									
Harpeth	Slight	Slight	Slight	Slight	Moderate	loblolly pine	77	100	loblolly pine, southern red oak, white oak, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
HtC:									
Hawthorne	Slight	Slight	Moderate	Slight	Moderate	eastern redcedar	40	35	eastern redcedar, Virginia pine
						Virginia pine	60	75	
HtE:									
Hawthorne	Slight	Moderate	Moderate	Slight	Moderate	eastern redcedar	40	35	eastern redcedar, Virginia pine
						Virginia pine	60	75	
HWE:									
Hawthorne	Moderate	Severe	Moderate	Slight	Moderate	eastern redcedar	40	35	eastern redcedar, Virginia pine
						Virginia pine	60	75	
Dellrose	Severe	Severe	Moderate	Slight	Moderate	loblolly pine	90	129	black walnut, loblolly pine, yellow poplar
						southern red oak	76	57	
						yellow poplar	98	100	
Ln:									
Lindell	Slight	Slight	Severe	Slight	Severe	loblolly pine	90	129	American sycamore, black walnut, cherrybark oak, sweetgum, yellow poplar
						southern red oak	80	57	
						sweetgum	90	100	
						yellow poplar	100	114	
MaE3:									
Marsh	Moderate	Moderate	Slight	Slight	Moderate	southern red oak	75	57	southern red oak, white oak, yellow poplar
						white oak	75	57	
						yellow poplar	93	100	
Stiversville	Moderate	Moderate	Slight	Slight	Moderate	southern red oak	75	57	southern red oak, white oak, yellow poplar
						white oak	75	57	
						yellow poplar	93	100	

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
MmC2:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
MmD2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
MmE:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
MmE2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	45	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	65	43	
MoC2:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	70	57	
MoD2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	70	57	
MoE2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	50	57	eastern redcedar, loblolly pine
						loblolly pine	80	114	
						southern red oak	70	57	
NeB:									
Nesbitt	Slight	Slight	Slight	Slight	Moderate	loblolly pine	80	114	yellow poplar, loblolly pine, shortleaf pine
						shortleaf pine	70	114	
						southern red oak	70	57	
Pt:									
Pits, quarries.									

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
RoC:									
Rock outcrop.									
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						northern red oak	65	43	
						shortleaf pine	64	100	
StB:									
Stiversville	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	75	100	
						southern red oak	75	57	
						yellow poplar	88	86	
StC2:									
Stiversville	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	75	100	
						southern red oak	75	57	
						yellow poplar	88	86	
StD2:									
Stiversville	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	50	57	loblolly pine, yellow poplar
						loblolly pine	75	100	
						southern red oak	75	57	
						yellow poplar	88	86	
TaB2:									
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	65	43	
						shortleaf pine	64	100	
TaC2:									
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	65	43	
						shortleaf pine	64	100	
TbB:									
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	65	43	
						shortleaf pine	64	100	

Table 7.--Woodland Management and Productivity--Continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
								cu ft/ac	
TtC:									
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	46	57	Virginia pine, eastern redcedar, loblolly pine, shortleaf pine
						loblolly pine	80	114	
						southern red oak	65	43	
						shortleaf pine	64	100	
Rock outcrop.									
Tu:									
Tupelo	Slight	Moderate	Moderate	Slight	Severe	loblolly pine	80	114	American sycamore, eastern cottonwood, loblolly pine, southern red oak
						southern red oak	70	57	
						sweetgum	80	86	
						white oak	70	57	
						yellow poplar	90	86	
Ub:									
Urban land.									
WaB2:									
Waynesboro	Slight	Slight	Slight	Slight	Moderate	loblolly pine	80	114	black walnut, loblolly pine, shortleaf pine, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	
WaC2:									
Waynesboro	Slight	Slight	Slight	Slight	Moderate	loblolly pine	80	114	black walnut, loblolly pine, shortleaf pine, yellow poplar
						southern red oak	70	57	
						white oak	70	57	
						yellow poplar	90	86	

Table 8.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. 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	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AmB:					
Armour	Slight	Slight	Moderate: slope	Slight	Slight
AmC2:					
Armour	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
Ar:					
Arrington	Severe: flooding	Moderate: flooding	Severe: flooding	Moderate: flooding	Severe: flooding
AsC:					
Ashwood	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
Mimosa	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope
Rock outcrop.					
AsE:					
Ashwood	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock outcrop.					
BaC:					
Barfield	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
Ashwood	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
Rock outcrop.					
BaE:					
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
Ashwood	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock outcrop.					
BrB2:					
Bradyville	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope small stones	Severe: erodes easily	Slight

Table 8.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
BrC2:					
Bradyville	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Severe: erodes easily	Moderate: slope
BtB2:					
Braxton	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope small stones	Slight	Slight
BtC2:					
Braxton	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope
BxC2:					
Braxton	Moderate: percs slowly	Moderate: percs slowly	Severe: slope	Slight	Slight
Talbott	Moderate: percs slowly	Moderate: percs slowly	Severe: slope	Slight	Moderate: depth to rock
Rock outcrop.					
CaB:					
Capshaw	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: slope wetness	Severe: erodes easily	Slight
DeC2:					
Dellrose	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
DeD2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
DeE:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
Ea:					
Eagleville	Severe: flooding wetness	Moderate: flooding wetness	Severe: flooding wetness	Moderate: flooding wetness	Severe: flooding
Eg:					
Egam	Severe: flooding	Moderate: flooding percs slowly	Severe: flooding	Moderate: flooding	Severe: flooding
GaC:					
Gladeville	Severe: small stones	Severe: small stones	Severe: slope small stones	Severe: small stones	Severe: small stones depth to rock
Rock outcrop.					

Table 8.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Gd:					
Godwin	Severe: flooding wetness	Moderate: flooding percs slowly wetness	Severe: flooding wetness	Moderate: flooding wetness	Severe: flooding
Go:					
Godwin	Severe: flooding wetness	Moderate: flooding percs slowly wetness	Severe: flooding wetness	Moderate: flooding wetness	Severe: flooding
HaB2:					
Hampshire	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope	Severe: erodes easily	Slight
HaC2:					
Hampshire	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Severe: erodes easily	Moderate: slope
HaC3:					
Hampshire	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope
HaD2:					
Hampshire	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: slope
HaD3:					
Hampshire	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
HrB:					
Harpeth	Slight	Slight	Moderate: slope	Severe: erodes easily	Slight
HrC2:					
Harpeth	Slight	Slight	Severe: slope	Severe: erodes easily	Slight
HtC:					
Hawthorne	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
HtE:					
Hawthorne	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
HWE:					
Hawthorne	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope

Table 8.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ln:					
Lindell	Severe: flooding	Moderate: flooding wetness	Severe: flooding	Moderate: flooding	Severe: flooding
MaE3:					
Marsh	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily slope	Severe: slope
Stiversville	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
MmC2:					
Mimosa	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope
MmD2:					
Mimosa	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
MmE:					
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
MmE2:					
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
MoC2:					
Mimosa	Moderate: percs slowly slope small stones	Moderate: percs slowly slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
MoD2:					
Mimosa	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
MoE2:					
Mimosa	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
NeB:					
Nesbitt	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly slope wetness	Slight	Slight
Pt:					
Pits, quarries.					
RoC:					
Rock outcrop.					
Talbott	Moderate: percs slowly	Moderate: percs slowly	Severe: slope	Slight	Moderate: depth to rock

Table 8.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
StB:					
Stiversville	Slight	Slight	Moderate: slope small stones	Slight	Slight
StC2:					
Stiversville	Moderate: slope	Moderate: slope	Severe: slope	Slight	Moderate: slope
StD2:					
Stiversville	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
TaB2:					
Talbott	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope	Slight	Moderate: depth to rock
TaC2:					
Talbott	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
TbB:					
Talbott	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope	Slight	Moderate: depth to rock
TtC:					
Talbott	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
Rock outcrop.					
Tu:					
Tupelo	Severe: flooding wetness	Moderate: percs slowly wetness	Severe: wetness	Moderate: wetness	Moderate: flooding wetness
Ub:					
Urban land.					
WaB2:					
Waynesboro	Slight	Slight	Moderate: slope	Severe: erodes easily	Slight
WaC2:					
Waynesboro	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope

Table 9.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AmB:										
Armour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
AmC2:										
Armour	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Ar:										
Arrington	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
AsC:										
Ashwood	Fair	Good	Fair	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
Mimosa	Fair	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
Rock outcrop.										
AsE:										
Ashwood	Very poor	Fair	Poor	Good	Poor	Very poor	Very poor	Poor	Good	Very poor
Mimosa	Very poor	Fair	Good	Good	Fair	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop.										
BaC:										
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Fair	Good	Fair	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop.										
BaE:										
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Very poor	Fair	Poor	Good	Poor	Very poor	Very poor	Poor	Good	Very poor
Rock outcrop.										
BrB2:										
Bradyville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BrC2:										
Bradyville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 9.--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
BtB2:										
Braxton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
BtC2:										
Braxton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
BxC2:										
Braxton	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Talbott	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
Rock outcrop.										
CaB:										
Capshaw	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
DeC2:										
Dellrose	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DeD2:										
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
Ea:										
Eagleville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Eg:										
Egam	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
GaC:										
Gladeville	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Rock outcrop.										
Gd:										
Godwin	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Go:										
Godwin	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
HaB2:										
Hampshire	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
HaC2:										
Hampshire	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 9.--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
HaC3:										
Hampshire	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HaD2:										
Hampshire	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
HaD3:										
Hampshire	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
HrB:										
Harpeth	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
HrC2:										
Harpeth	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HtC:										
Hawthorne	Poor	Fair	Fair	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
HtE:										
Hawthorne	Very poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor
HWE:										
Hawthorne	Very poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor
Dellrose	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Ln:										
Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
MaE3:										
Marsh	Very poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Stiversville	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MmC2:										
Mimosa	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
MmD2:										
Mimosa	Poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
MmE:										
Mimosa	Very poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
MmE2:										
Mimosa	Very poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor

Table 9.--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
MoC2:										
Mimosa	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
MoD2:										
Mimosa	Poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
MoE2:										
Mimosa	Very poor	Fair	Good	Good	Poor	Very poor	Very poor	Fair	Good	Very poor
NeB:										
Nesbitt	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Pt:										
Pits, quarries.										
RoC:										
Rock outcrop.										
Talbott	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
StB:										
Stiversville	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
StC2:										
Stiversville	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
StD2:										
Stiversville	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
TaB2:										
Talbott	Fair	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
TaC2:										
Talbott	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
TbB:										
Talbott	Fair	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
TtC:										
Talbott	Fair	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
Rock outcrop.										
Tu:										
Tupelo	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Ub:										
Urban land.										

Table 9.--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
WaB2:										
Waynesboro	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
WaC2:										
Waynesboro	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 10.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. 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	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AmB:						
Armour	Slight	Slight	Slight	Slight	Severe: low strength	Slight
AmC2:						
Armour	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Severe: low strength	Moderate: slope
Ar:						
Arrington	Moderate: flooding wetness	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding
AsC:						
Ashwood	Severe: depth to rock	Severe: shrink-swell	Severe: shrink-swell depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell	Moderate: slope depth to rock
Mimosa	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope
Rock outcrop.						
AsE:						
Ashwood	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
Rock outcrop.						
BaC:						
Barfield	Severe: depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell slope depth to rock	Severe: low strength shrink-swell depth to rock	Severe: depth to rock

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
BaC:						
Ashwood	Severe: depth to rock	Severe: shrink-swell	Severe: shrink-swell depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell	Moderate: slope depth to rock
Rock outcrop.						
BaE:						
Barfield	Severe: slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: low strength shrink-swell depth to rock	Severe: slope depth to rock
Ashwood	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
Rock outcrop.						
BrB2:						
Bradyville	Moderate: too clayey depth to rock	Moderate: shrink-swell	Moderate: shrink-swell depth to rock	Moderate: shrink-swell	Severe: low strength	Slight
BrC2:						
Bradyville	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope
BtB2:						
Braxton	Moderate: too clayey	Moderate: shrink-swell	Moderate: shrink-swell	Moderate: shrink-swell	Severe: low strength	Slight
BtC2:						
Braxton	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
BxC2:						
Braxton	Moderate: too clayey	Moderate: shrink-swell	Moderate: shrink-swell	Moderate: shrink-swell slope	Severe: low strength	Slight

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
BxC2:						
Talbott	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: low strength	Moderate: depth to rock
Rock outcrop.						
CaB:						
Capshaw	Severe: wetness	Moderate: shrink-swell wetness	Moderate: shrink-swell wetness depth to rock	Moderate: shrink-swell wetness	Severe: low strength	Slight
DeC2:						
Dellrose	Moderate: slope too clayey	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: large stones slope small stones
DeD2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DeE:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Ea:						
Eagleville	Severe: wetness depth to rock	Severe: flooding shrink-swell wetness	Severe: flooding wetness depth to rock	Severe: flooding shrink-swell wetness	Severe: flooding low strength shrink-swell	Severe: flooding
Eg:						
Egam	Moderate: flooding too clayey wetness	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding low strength	Severe: flooding
GaC:						
Gladeville	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: small stones depth to rock
Rock outcrop.						

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Gd:						
Godwin	Severe: wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding low strength	Severe: flooding
Go:						
Godwin	Severe: wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding low strength	Severe: flooding
HaB2:						
Hampshire	Moderate: too clayey	Moderate: shrink-swell	Moderate: shrink-swell	Moderate: shrink-swell	Severe: low strength	Slight
HaC2:						
Hampshire	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
HaC3:						
Hampshire	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
HaD2:						
Hampshire	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
HaD3:						
Hampshire	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
HrB:						
Harpeth	Moderate: too clayey	Slight	Slight	Slight	Severe: low strength	Slight
HrC2:						
Harpeth	Moderate: too clayey	Slight	Slight	Moderate: slope	Severe: low strength	Slight
HtC:						
Hawthorne	Moderate: slope depth to rock	Moderate: slope	Moderate: slope depth to rock	Severe: slope	Moderate: slope	Moderate: large stones slope small stones

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HtE:						
Hawthorne	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
HWE:						
Hawthorne	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Ln:						
Lindell	Severe: wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Severe: flooding
MaE3:						
Marsh	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Stiversville	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
MmC2:						
Mimosa	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope
MmD2:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
MmE:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
MmE2:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
MoC2:						
Mimosa	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: large stones slope small stones
MoD2:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
MoE2:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
NeB:						
Nesbitt	Moderate: wetness	Moderate: wetness	Moderate: wetness	Moderate: wetness	Severe: low strength	Slight
Pt:						
Pits, quarries.						
RoC:						
Rock outcrop.						
Talbott	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: low strength	Moderate: depth to rock
StB:						
Stiversville	Slight	Slight	Slight	Slight	Slight	Slight
StC2:						
Stiversville	Moderate: slope	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: slope
StD2:						
Stiversville	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
TaB2:						
Talbott	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: low strength	Moderate: depth to rock

Table 10.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
TaC2:						
Talbott	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: depth to rock	Severe: slope	Severe: low strength	Moderate: slope depth to rock
TbB:						
Talbott	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: low strength	Moderate: depth to rock
TtC:						
Talbott	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: depth to rock	Severe: slope	Severe: low strength	Moderate: slope depth to rock
Rock outcrop.						
Tu:						
Tupelo	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: flooding low strength shrink-swell	Moderate: flooding wetness
Ub:						
Urban land.						
WaB2:						
Waynesboro	Moderate: too clayey	Slight	Slight	Slight	Moderate: low strength	Slight
WaC2:						
Waynesboro	Moderate: slope too clayey	Moderate: slope	Moderate: slope	Severe: slope	Moderate: low strength slope	Moderate: slope

Table 11.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. 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	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AmB:					
Armour	Moderate: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: thin layer too clayey
AmC2:					
Armour	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope thin layer too clayey
Ar:					
Arrington	Severe: flooding	Severe: flooding	Severe: flooding wetness	Severe: flooding	Good
AsC:					
Ashwood	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Mimosa	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
Rock outcrop.					
AsE:					
Ashwood	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
Rock outcrop.					
BaC:					
Barfield	Severe: depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Ashwood	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop.					

Table 11.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
BaE:					
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Ashwood	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop.					
BrB2:					
Bradyville	Severe: percs slowly	Moderate: seepage slope depth to rock	Severe: too clayey depth to rock	Moderate: depth to rock	Poor: hard to pack too clayey
BrC2:					
Bradyville	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
BtB2:					
Braxton	Severe: percs slowly	Moderate: seepage slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
BtC2:					
Braxton	Severe: percs slowly	Severe: slope	Severe: too clayey	Moderate: slope	Poor: hard to pack too clayey
BxC2:					
Braxton	Severe: percs slowly	Severe: slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop.					
CaB:					
Capshaw	Severe: percs slowly wetness	Moderate: slope depth to rock	Severe: too clayey wetness depth to rock	Severe: wetness	Poor: hard to pack too clayey
DeC2:					
Dellrose	Moderate: percs slowly slope	Severe: seepage slope	Moderate: slope too clayey	Severe: seepage	Poor: small stones
DeD2:					
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones

Table 11.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
DeE:					
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones
Ea:					
Eagleville	Severe: flooding wetness depth to rock	Severe: flooding depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Poor: hard to pack too clayey depth to rock
Eg:					
Egam	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey
GaC:					
Gladeville	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Rock outcrop.					
Gd:					
Godwin	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
Go:					
Godwin	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
HaB2:					
Hampshire	Severe: percs slowly	Moderate: seepage slope depth to rock	Severe: too clayey depth to rock	Moderate: depth to rock	Poor: hard to pack too clayey
HaC2:					
Hampshire	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
HaC3:					
Hampshire	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
HaD2:					
Hampshire	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
HaD3:					
Hampshire	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey

Table 11.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
HrB:					
Harpeth	Moderate: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: thin layer too clayey
HrC2:					
Harpeth	Moderate: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: thin layer too clayey
HtC:					
Hawthorne	Severe: depth to rock	Severe: seepage slope depth to rock	Severe: seepage depth to rock	Severe: seepage depth to rock	Poor: small stones depth to rock
HtE:					
Hawthorne	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Poor: slope small stones depth to rock
HWE:					
Hawthorne	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Poor: slope small stones depth to rock
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones
Ln:					
Lindell	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Fair: small stones too clayey wetness
MaE3:					
Marsh	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Poor: slope depth to rock
Stiversville	Severe: slope	Severe: seepage slope	Severe: seepage slope depth to rock	Severe: seepage slope	Poor: slope
MmC2:					
Mimosa	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
MmD2:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey

Table 11.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MmE:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
MmE2:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
MoC2:					
Mimosa	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
MoD2:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
MoE2:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
NeB:					
Nesbitt	Severe: percs slowly wetness	Severe: wetness	Moderate: too clayey wetness	Moderate: wetness	Fair: too clayey wetness
Pt:					
Pits, quarries.					
RoC:					
Rock outcrop.					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
StB:					
Stiversville	Moderate: depth to rock	Severe: seepage	Severe: seepage depth to rock	Severe: seepage	Fair: too clayey depth to rock
StC2:					
Stiversville	Moderate: slope depth to rock	Severe: seepage slope	Severe: seepage depth to rock	Severe: seepage	Fair: slope too clayey depth to rock
StD2:					
Stiversville	Severe: slope	Severe: seepage slope	Severe: seepage slope depth to rock	Severe: seepage slope	Poor: slope

Table 11.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
TaB2:					
Talbott	Severe: percs slowly depth to rock	Severe: depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TaC2:					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TbB:					
Talbott	Severe: percs slowly depth to rock	Severe: depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TtC:					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop.					
Tu:					
Tupelo	Severe: flooding percs slowly wetness	Slight	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
Ub:					
Urban land.					
WaB2:					
Waynesboro	Moderate: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: hard to pack too clayey
WaC2:					
Waynesboro	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: hard to pack slope too clayey

Table 12.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. 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	Roadfill	Sand	Gravel	Topsoil
AmB:				
Armour	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones too clayey
AmC2:				
Armour	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: slope small stones too clayey
Ar:				
Arrington	Fair: low strength thin layer	Improbable: excess fines	Improbable: excess fines	Good
AsC:				
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Rock outcrop.				
AsE:				
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Mimosa	Poor: low strength slope	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Rock outcrop.				
BaC:				
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Rock outcrop.				
BaE:				
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock

Table 12.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
BaE:				
Ashwood	Poor: low strength, shrink-swell, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope, too clayey
Rock outcrop.				
BrB2:				
Bradyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
BrC2:				
Bradyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
BtB2:				
Braxton	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
BtC2:				
Braxton	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
BxC2:				
Braxton	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Talbott	Poor: low strength, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Rock outcrop.				
CaB:				
Capshaw	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
DeC2:				
Dellrose	Fair: thin layer	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones
DeD2:				
Dellrose	Fair: slope, thin layer	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DeE:				
Dellrose	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
Ea:				
Eagleville	Poor: low strength, shrink-swell, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey

Table 12.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Eg:				
Egam	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: thin layer
GaC:				
Gladeville	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones depth to rock
Rock outcrop.				
Gd:				
Godwin	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: thin layer
Go:				
Godwin	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: thin layer
HaB2:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim too clayey
HaC2:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim too clayey
HaC3:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim too clayey
HaD2:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope too clayey
HaD3:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope too clayey
HrB:				
Harpeth	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
HrC2:				
Harpeth	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
HtC:				
Hawthorne	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
HtE:				
Hawthorne	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones

Table 12.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
HWE:				
Hawthorne	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
Dellrose	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope small stones
Ln:				
Lindell	Fair: low strength wetness	Improbable: excess fines	Improbable: excess fines	Good
MaE3:				
Marsh	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
Stiversville	Fair: slope thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
MmC2:				
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
MmD2:				
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
MmE:				
Mimosa	Poor: low strength slope	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
MmE2:				
Mimosa	Poor: low strength slope	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
MoC2:				
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
MoD2:				
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
MoE2:				
Mimosa	Poor: low strength slope	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
NeB:				
Nesbitt	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Pt:				
Pits, quarries.				

Table 12.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
RoC:				
Rock outcrop.				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
StB:				
Stiversville	Fair: thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
StC2:				
Stiversville	Fair: thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
StD2:				
Stiversville	Fair: slope thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
TaB2:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TaC2:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TbB:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TtC:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Rock outcrop.				
Tu:				
Tupelo	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Ub:				
Urban land.				
WaB2:				
Waynesboro	Fair: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
WaC2:				
Waynesboro	Fair: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey

Table 13.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. 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	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
AmB:							
Armour	Moderate: seepage slope	Moderate: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
AmC2:							
Armour	Severe: slope	Moderate: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Ar:							
Arrington	Moderate: seepage	Severe: piping	Moderate: slow refill deep to water	Limitation: deep to water	Limitation: erodes easily flooding	Limitation: erodes easily	Limitation: erodes easily
AsC:							
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
Rock outcrop.							
AsE:							
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
Rock outcrop.							

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
BaC:							
Barfield	Severe: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Rock outcrop.							
BaE:							
Barfield	Severe: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Rock outcrop.							
BrB2:							
Bradyville	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
BrC2:							
Bradyville	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
BtB2:							
Braxton	Moderate: seepage slope	Moderate: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Favorable	Favorable
BtC2:							
Braxton	Severe: slope	Moderate: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
BxC2:							
Braxton	Moderate: seepage slope	Moderate: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
Rock outcrop.							
CaB:							
Capshaw	Moderate: slope depth to rock	Severe: hard to pack	Severe: slow refill	Limitation: percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly
DeC2:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DeD2:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DeE:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
Ea:							
Eagleville	Moderate: depth to rock	Severe: hard to pack	Severe: no water	Limitation: flooding percs slowly depth to rock	Limitation: percs slowly wetness	Limitation: wetness depth to rock	Limitation: wetness depth to rock
Eg:							
Egam	Slight	Moderate: hard to pack thin layer wetness	Severe: slow refill	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
GaC:							
Gladeville	Severe: slope depth to rock	Severe: thin layer	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope droughty
Rock outcrop.							
Gd:							
Godwin	Slight	Severe: wetness	Severe: slow refill	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness
Go:							
Godwin	Slight	Severe: wetness	Severe: slow refill	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness
HaB2:							
Hampshire	Moderate: seepage slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
HaC2:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
HaC3:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
HaD2:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
HaD3:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
HrB:							
Harpeth	Moderate: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
HrC2:							
Harpeth	Moderate: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
HtC:							
Hawthorne	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
HtE:							
Hawthorne	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
HWE:							
Hawthorne	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
Ln:							
Lindell	Moderate: seepage	Severe: piping	Moderate: slow refill deep to water	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
MaE3:							
Marsh	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock	Limitation: erodes easily large stones slope
Stiversville	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
MmC2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
MmD2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
MmE:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
MmE2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
MoC2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: percs slowly slope	Limitation: percs slowly slope
MoD2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: percs slowly slope	Limitation: percs slowly slope
MoE2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: percs slowly slope	Limitation: percs slowly slope
NeB:							
Nesbitt	Moderate: seepage slope	Moderate: piping thin layer wetness	Severe: no water	Limitation: slope	Limitation: erodes easily slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Pt: Pits, quarries.							
RoC: Rock outcrop.							
Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
StB: Stiversville	Severe: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Favorable	Favorable
StC2: Stiversville	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
StD2: Stiversville	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
TaB2: Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
TaC2: Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
TbB: Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
TtC: Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock

Table 13.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
TtC: Rock outcrop.							
Tu: Tupelo	Slight	Severe: hard to pack wetness	Severe: slow refill	Limitation: flooding percs slowly	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness
Ub: Urban land.							
WaB2: Waynesboro	Moderate: seepage slope	Severe: hard to pack piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
WaC2: Waynesboro	Severe: slope	Severe: hard to pack piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
AmB:												
Armour----------	0-7	Silt loam	CL, CL-ML, ML	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
AmC2:												
Armour----------	0-4	Silt loam	CL, CL-ML, ML	A-4	0	0	90-100	80-100	75-95	70-90	25-35	5-10
	4-65	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-------	0-25	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	90-100	85-95	75-95	25-40	4-15
	25-65	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
AsC:												
Ashwood---------	0-6	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-25	Clay, silty clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	25-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Mimosa----------	0-5	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
AsE:												
Ashwood---------	0-6	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-25	Clay, silty clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	25-27	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	Plas- ticity index
	In				Pct	Pct					Pct	
AsE:												
Mimosa----------	0-5	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
BaC:												
Barfield--------	0-3	Silty clay loam	CH, CL, MH	A-6, A-7	0-5	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	3-14	Clay, silty clay loam, flaggy clay	CH, CL, MH	A-6, A-7	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	14-16	Unweathered bedrock			---	---	---	---	---	---	---	---
Ashwood---------	0-6	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-25	Clay, silty clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	25-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
BaE:												
Barfield--------	0-3	Silty clay loam	CH, CL, MH	A-6, A-7	0-5	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	3-14	Clay, silty clay loam, flaggy clay	CH, CL, MH	A-6, A-7	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	14-16	Unweathered bedrock			---	---	---	---	---	---	---	---
Ashwood---------	0-6	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	6-25	Clay, silty clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	25-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
BrB2:												
Bradyville------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	9-48	Silty clay, clay	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	48-50	Unweathered bedrock			---	---	---	---	---	---	---	---
BrC2:												
Bradyville------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	9-48	Silty clay, clay	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	48-50	Unweathered bedrock			---	---	---	---	---	---	---	---
BtB2:												
Braxton---------	0-7	Silt loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
	7-12	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
	12-74	Clay	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
BtC2:												
Braxton---------	0-7	Silt loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
	7-12	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
	12-74	Clay	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
BxC2:												
Braxton---------	0-7	Silt loam	CL	A-4, A-6	0	0	80-100	75-100	70-90	65-85	25-40	7-18
	7-12	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-62	20-32
	12-74	Clay	CH, CL	A-7	0	0	80-100	75-100	65-95	60-90	45-65	22-34
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
CaB:												
Capshaw---------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	90-100	85-100	80-95	75-85	18-30	3-10
	9-34	Clay, silty clay, silty clay loam	CH, CL, MH	A-7	0	0	90-100	85-100	80-95	75-90	41-68	18-36
	34-57	Clay	CH, CL, MH	A-7	---	0-3	85-100	80-100	75-95	70-90	41-68	18-36
	57-59	Unweathered bedrock			---	---	---	---	---	---	---	---
DeC2:												
Dellrose--------	0-14	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	14-65	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DeD2:												
Dellrose--------	0-14	Gravelly silt loam	CL, CL-ML, GC, SC	A-6, A-4	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	14-65	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DeE:												
Dellrose--------	0-14	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	14-65	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
Ea:												
Eagleville------	0-9	Silty clay loam	CH, CL	A-6, A-7	0	0	80-100	75-100	70-100	65-95	35-55	15-28
	9-27	Clay, silty clay, silty clay loam	CH	A-7	0	0	80-100	75-100	70-100	65-95	52-70	28-43
	27-29	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	
Eg:												
Egam----------	0-11	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	95-100	95-100	85-100	75-95	21-45	4-20
	11-72	Silty clay, silty clay loam, clay	CH, CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	38-60	15-30
	72-74	Unweathered bedrock			---	---	---	---	---	---	---	---
GaC:												
Gladeville------	0-9	Channery silty clay loam, very flaggy clay	GC	A-2, A-6, A-7	0-5	3-12	35-60	25-50	25-50	20-50	38-55	20-34
	9-11	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
Gd:												
Godwin----------	0-10	Silty clay loam, silty clay	CH, CL, MH, ML	A-7	0	0	100	98-100	95-100	85-95	43-55	18-27
	10-60	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	98-100	90-100	85-95	43-70	20-40
Go:												
Godwin----------	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	90-100	80-95	20-40	5-16
	10-22	Silty clay loam, silty clay	CH, CL, MH, ML	A-7	0	0	100	98-100	95-100	85-95	43-55	18-27
	22-60	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	98-100	90-100	85-95	43-70	20-40
HaB2:												
Hampshire-------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	20-40	3-20
	8-46	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	46-48	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
HaC2:												
Hampshire-------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	20-40	3-20
	8-46	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	46-48	Weathered bedrock			---	---	---	---	---	---	---	---
HaC3:												
Hampshire-------	0-4	Silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	30-48	11-25
	4-41	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	41-43	Weathered bedrock			---	---	---	---	---	---	---	---
HaD2:												
Hampshire-------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	20-40	3-20
	8-46	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	46-48	Weathered bedrock			---	---	---	---	---	---	---	---
HaD3:												
Hampshire-------	0-4	Silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	30-48	11-25
	4-41	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	41-43	Weathered bedrock			---	---	---	---	---	---	---	---
HrB:												
Harpeth---------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
	9-65	Silty clay loam, clay, clay loam	CH, CL, MH, ML	A-7	0	0	90-100	85-100	75-95	60-85	40-55	15-25
HrC2:												
Harpeth---------	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	80-90	20-30	3-10
	6-65	Silty clay loam, clay, clay loam	CH, CL, MH, ML	A-7	0	0	90-100	85-100	75-95	60-85	40-55	15-25

Table 14.--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	
HtC:												
Hawthorne-------	0-7	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	7-28	Very channery silty clay loam, very gravelly silt loam	CL-ML, GC-GM, GM, ML	A-2, A-4, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	28-35	Weathered bedrock			---	---	---	---	---	---	---	---
HtE:												
Hawthorne-------	0-7	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	7-28	Very channery silty clay loam, very gravelly silt loam	CL-ML, GC-GM, GM, ML	A-2, A-4, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	28-35	Weathered bedrock			---	---	---	---	---	---	---	---
HWE:												
Hawthorne-------	0-7	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	7-28	Very channery silty clay loam, very gravelly silt loam	CL-ML, GC-GM, GM, ML	A-2, A-4, A-6	0-5	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	28-35	Weathered bedrock			---	---	---	---	---	---	---	---
Dellrose--------	0-20	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	20-65	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
Ln:												
Lindell---------	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0	90-100	75-100	65-90	55-80	18-30	3-10
	6-60	Silt loam, loam, clay loam	CL, CL-ML	A-4, A-6	---	0-2	90-100	75-95	65-90	55-80	23-39	6-18

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
MaE3:												
Marsh----------	0-3	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	90-100	85-100	70-100	55-95	0-35	3-20
	3-19	Loam, clay loam, channery loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-95	75-95	65-95	55-90	20-40	2-20
	19-23	Very channery loam, flaggy loam, channery clay loam	CL, GC, GM, ML	A-2, A-4, A-6	0	10-50	50-95	40-90	35-90	30-85	20-40	2-20
	23-25	Weathered bedrock			---	---	---	---	---	---	---	---
Stiversville----	0-6	Loam	CL, CL-ML, ML	A-4	---	0-2	80-100	75-100	65-90	55-80	0-30	2-10
	6-50	Clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	---	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	50-55	Channery clay loam, channery loam, channery silt loam	CL, GC, SC, SM	A-6, A-4	---	0-10	70-85	60-80	50-75	36-65	20-40	3-15
	55-57	Weathered bedrock			---	---	---	---	---	---	---	---
MmC2:												
Mimosa----------	0-5	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
MmD2:												
Mimosa----------	0-5	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
MmE:												
Mimosa----------	0-7	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
MmE2:												
Mimosa----------	0-5	Silt loam	CL, ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
MoC2:												
Mimosa----------	0-5	Gravelly silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
MoD2:												
Mimosa----------	0-5	Gravelly silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	
MoE2:												
Mimosa----------	0-5	Gravelly silt loam	CL, ML	A-4, A-6, A-7	---	5-15	70-80	65-75	60-70	50-65	25-45	7-20
	5-45	Silty clay loam, silty clay, clay	CH, CL, MH, ML	A-7	0	0	95-100	90-100	85-95	80-90	45-60	18-28
	45-52	Clay, silty clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	52-54	Unweathered bedrock			---	---	---	---	---	---	---	---
NeB:												
Nesbitt---------	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	80-95	75-90	15-30	3-10
	7-40	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	95-100	80-95	75-95	30-45	10-20
	40-75	Clay, silty clay	CH, CL, MH	A-7	0	0	95-100	80-100	75-95	70-90	45-65	20-34
Pt:												
Pits, quarries.												
RoC:												
Rock outcrop.												
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
StB:												
Stiversville----	0-9	Loam	CL, CL-ML, ML	A-4	---	0-2	80-100	75-100	65-90	55-80	0-30	2-10
	9-45	Clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	---	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	45-54	Channery clay loam, channery loam, channery silt loam	CL, GC, SC, SM	A-4, A-6	---	0-10	70-85	60-80	50-75	36-65	20-40	3-15
	54-56	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--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	Plas-ticity index
	In				Pct	Pct					Pct	
StC2:												
Stiversville----	0-6	Loam	CL, CL-ML, ML	A-4	---	0-2	80-100	75-100	65-90	55-80	0-30	2-10
	6-50	Clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	---	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	50-55	Channery clay loam, channery loam, channery silt loam	CL, GC, SC, SM	A-4, A-6	---	0-10	70-85	60-80	50-75	36-65	20-40	3-15
	55-57	Weathered bedrock			---	---	---	---	---	---	---	---
StD2:												
Stiversville----	0-6	Loam	CL, CL-ML, ML	A-4	---	0-2	80-100	75-100	65-90	55-80	0-30	2-10
	6-50	Clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	---	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	50-55	Channery clay loam, channery loam, channery silt loam	CL, GC, SC, SM	A-4, A-6	---	0-10	70-85	60-80	50-75	36-65	20-40	3-15
	55-57	Weathered bedrock			---	---	---	---	---	---	---	---
TaB2:												
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
TaC2:												
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
TbB:												
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												

Table 14.--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	
TtC:												
Talbott---------	0-7	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-32	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop.												
Tu:												
Tupelo----------	0-5	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	80-100	70-90	20-35	3-10
	5-12	Silty clay loam, silty clay	CH, CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	30-55	11-29
	12-65	Clay, silty clay	CH, CL	A-7	0	0	95-100	95-100	90-100	85-100	41-70	20-42
Ub:												
Urban land.												
WaB2:												
Waynesboro------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	80-98	70-90	22-35	5-15
	6-65	Clay loam, sandy clay, clay	CL, MH, ML	A-4, A-6, A-7	0	0-5	90-100	80-100	70-98	55-75	35-68	9-32
WaC2:												
Waynesboro------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	80-98	70-90	22-35	5-15
	6-65	Clay loam, sandy clay, clay	CL, MH, ML	A-4, A-6, A-7	0	0-5	90-100	80-100	70-98	55-75	35-68	9-32

Table 15.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
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	
AmC2:										
Armour----------	0-4	15-27	1.30-1.45	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	4-65	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----------	0-25	18-35	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	2.0-4.0	.37	.37	5
	25-65	18-40	1.30-1.45	0.6-2	0.19-0.22	0.0-2.9	0.5-2.0	.37	.37	
AsC:										
Ashwood----------	0-6	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-25	40-60	1.30-1.45	0.0015-0.2	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	25-27	---	---	0.0000-0.0015	---	---	---	---	---	
Mimosa----------	0-5	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
AsE:										
Ashwood----------	0-6	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-25	40-60	1.30-1.45	0.0015-0.2	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	25-27	---	---	0.0000-0.0015	---	---	---	---	---	
Mimosa----------	0-5	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
BaC:										
Barfield----------	0-3	35-55	1.30-1.50	0.2-0.6	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	3-14	35-55	1.30-1.50	0.0015-0.2	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	14-16	---	---	0.0000-0.0015	---	---	---	---	---	
Ashwood----------	0-6	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-25	40-60	1.30-1.45	0.0015-0.2	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	25-27	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
BaE:										
Barfield----------	0-3	35-55	1.30-1.50	0.2-0.6	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	3-14	35-55	1.30-1.50	0.0015-0.2	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	14-16	---	---	0.0000-0.0015	---	---	---	---	---	
Ashwood----------	0-6	22-40	1.20-1.40	0.6-2	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	6-25	40-60	1.30-1.45	0.0015-0.2	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	25-27	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
BrB2:										
Bradyville---------	0-9	18-27	1.40-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
	9-48	40-60	1.30-1.50	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	48-50	---	---	0.0000-0.0015	---	---	---	---	---	
BrC2:										
Bradyville---------	0-9	18-27	1.40-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
	9-48	40-60	1.30-1.50	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	48-50	---	---	0.0000-0.0015	---	---	---	---	---	
BtB2:										
Braxton----------	0-7	20-35	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
	7-12	35-45	1.25-1.45	0.2-0.6	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
	12-74	45-65	1.25-1.45	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
BtC2:										
Braxton----------	0-7	20-35	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
	7-12	35-45	1.25-1.45	0.2-0.6	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
	12-74	45-65	1.25-1.45	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
BxC2:										
Braxton----------	0-7	20-35	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.32	.32	5
	7-12	35-45	1.25-1.45	0.2-0.6	0.12-0.17	3.0-5.9	0.0-0.5	.20	.20	
	12-74	45-65	1.25-1.45	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.20	.20	
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.0015-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
CaB:										
Capshaw----------	0-9	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	3
	9-34	35-55	1.40-1.55	0.06-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.24	.24	
	34-57	40-55	1.40-1.60	0.0015-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.24	.24	
	57-59	---	---	0.0000-0.0015	---	---	---	---	---	
DeC2:										
Dellrose----------	0-14	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	14-65	20-40	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
DeD2:										
Dellrose----------	0-14	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	14-65	20-40	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
DeE:										
Dellrose----------	0-14	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	14-65	20-40	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
Ea:										
Eagleville---------	0-9	27-45	1.25-1.40	0.06-0.2	0.12-0.18	6.0-8.9	2.0-5.0	.32	.32	2
	9-27	35-60	1.30-1.50	0.06-0.2	0.10-0.16	6.0-8.9	0.5-1.0	.32	.32	
	27-29	---	---	0.0000-0.0015	---	---	0.5-1.0	---	---	
Eg:										
Egam----------	0-11	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
	11-72	35-50	1.30-1.45	0.2-0.6	0.14-0.20	3.0-5.9	0.0-0.5	.32	.32	
	72-74	---	---	0.0000-0.0015	---	---	---	---	---	
GaC:										
Gladeville---------	0-9	35-45	1.30-1.50	0.6-2	0.05-0.11	3.0-5.9	2.0-4.0	.17	.28	1
	9-11	---	---	0.0000-0.0015	---	---	---	---	---	

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
GaC:										
Rock outcrop.										
Gd:										
Godwin----------	0-10	35-45	1.25-1.45	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32	5
	10-60	35-55	1.30-1.50	0.06-0.2	0.12-0.18	3.0-5.9	0.5-1.0	.32	.32	
Go:										
Godwin----------	0-10	20-35	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	2.0-5.0	.32	.32	5
	10-22	35-45	1.25-1.45	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32	
	22-60	40-55	1.30-1.50	0.06-0.2	0.12-0.18	3.0-5.9	0.5-1.0	.32	.32	
HaB2:										
Hampshire----------	0-8	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	4
	8-46	35-50	1.25-1.45	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	46-48	---	---	0.0015-0.2	---	---	---	---	---	
HaC2:										
Hampshire----------	0-8	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	4
	8-46	35-50	1.25-1.45	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	46-48	---	---	0.0015-0.2	---	---	---	---	---	
HaC3:										
Hampshire----------	0-4	27-40	1.30-1.45	0.6-2	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32	3
	4-41	40-50	1.25-1.45	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	41-43	---	---	0.0000-0.2	---	---	---	---	---	
HaD2:										
Hampshire----------	0-8	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	4
	8-46	35-50	1.25-1.45	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	46-48	---	---	0.0015-0.2	---	---	---	---	---	
HaD3:										
Hampshire----------	0-4	27-40	1.30-1.45	0.6-2	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32	3
	4-41	40-50	1.25-1.45	0.2-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	41-43	---	---	0.0000-0.2	---	---	---	---	---	
HrB:										
Harpeth----------	0-9	14-25	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	9-65	32-50	1.40-1.55	0.6-2	0.12-0.17	0.0-2.9	0.0-0.5	.37	.37	
HrC2:										
Harpeth----------	0-6	14-25	1.30-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	6-65	32-50	1.40-1.55	0.6-2	0.12-0.17	0.0-2.9	0.0-0.5	.37	.37	
HtC:										
Hawthorne----------	0-7	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	7-28	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	28-35	---	---	0.0000-0.2	---	---	---	---	---	
HtE:										
Hawthorne----------	0-7	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	7-28	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	28-35	---	---	0.0000-0.2	---	---	---	---	---	
HWE:										
Hawthorne----------	0-7	12-25	1.40-1.50	2-6	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	7-28	15-32	1.40-1.50	2-6	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	28-35	---	---	0.0000-0.2	---	---	---	---	---	
Dellrose----------	0-20	15-27	1.20-1.40	2-6	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	20-65	20-40	1.20-1.40	2-6	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Ln:										
Lindell----------	0-6	20-27	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	
MaE3:										
Marsh----------	0-3	15-27	1.20-1.40	0.6-6	0.14-0.20	0.0-2.9	0.5-2.0	.37	---	3
	3-19	18-27	1.20-1.50	0.6-6	0.12-0.20	0.0-2.9	0.0-0.5	.32	---	
	19-23	18-30	1.20-1.55	0.6-6	0.05-0.14	0.0-2.9	0.0-0.5	.24	---	
	23-25	---	---	0.06-0.2	---	---	---	---	---	
Stiversville-------	0-6	15-27	1.40-1.55	2-6	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	3
	6-50	20-35	1.40-1.55	2-6	0.14-0.18	0.0-2.9	---	.28	.28	
	50-55	18-32	1.35-1.50	2-6	0.12-0.18	0.0-2.9	---	.28	.28	
	55-57	---	---	0.06-0.2	---	---	---	---	---	
MmC2:										
Mimosa----------	0-5	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MmD2:										
Mimosa----------	0-5	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MmE:										
Mimosa----------	0-7	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	7-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MmE2:										
Mimosa----------	0-5	24-40	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MoC2:										
Mimosa----------	0-5	22-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.28	.32	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MoD2:										
Mimosa----------	0-5	22-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.28	.32	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
MoE2:										
Mimosa----------	0-5	22-40	1.30-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.28	.32	3
	5-45	35-55	1.30-1.50	0.06-0.2	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	45-52	45-60	1.35-1.55	0.0015-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24	
	52-54	---	---	0.0000-0.0015	---	---	---	---	---	
NeB:										
Nesbitt----------	0-7	15-30	1.35-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	7-40	20-40	1.50-1.65	0.2-2	0.10-0.15	0.0-2.9	---	.37	.37	
	40-75	40-55	1.45-1.60	0.2-0.6	0.10-0.15	3.0-5.9	---	.24	.24	

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Pt:										
Pits, quarries.										
RoC:										
Rock outcrop.										
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.06	---	---	---	---	---	
StB:										
Stiversville-------	0-9	15-27	1.40-1.55	2-6	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	4
	9-45	20-35	1.40-1.55	2-6	0.14-0.18	0.0-2.9	---	.28	.28	
	45-54	18-32	1.35-1.50	2-6	0.12-0.18	0.0-2.9	---	.28	.28	
	54-56	---	---	0.06-0.2	---	---	---	---	---	
StC2:										
Stiversville-------	0-6	15-27	1.40-1.55	2-6	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	4
	6-50	20-35	1.40-1.55	2-6	0.14-0.18	0.0-2.9	---	.28	.28	
	50-55	18-32	1.35-1.50	2-6	0.12-0.18	0.0-2.9	---	.28	.28	
	55-57	---	---	0.06-0.2	---	---	---	---	---	
StD2:										
Stiversville-------	0-6	15-27	1.40-1.55	2-6	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	4
	6-50	20-35	1.40-1.55	2-6	0.14-0.18	0.0-2.9	---	.28	.28	
	50-55	18-32	1.35-1.50	2-6	0.12-0.18	0.0-2.9	---	.28	.28	
	55-57	---	---	0.06-0.2	---	---	---	---	---	
TaB2:										
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.0015-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.0015	---	---	---	---	---	
TaC2:										
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.0015-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.0015	---	---	---	---	---	
TbB:										
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.0015-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
TtC:										
Talbott----------	0-7	15-27	1.35-1.50	0.6-2	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-32	40-60	1.30-1.50	0.0015-0.2	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	32-34	---	---	0.0000-0.0015	---	---	---	---	---	
Rock outcrop.										
Tu:										
Tupelo----------	0-5	18-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	5
	5-12	30-40	1.40-1.55	0.2-0.6	0.15-0.20	3.0-5.9	---	.32	.32	
	12-65	40-65	1.40-1.55	0.0015-0.2	0.12-0.16	6.0-8.9	---	.28	.28	
Ub:										
Urban land.										

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
WaB2:										
Waynesboro---------	0-6	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.37	.37	5
	6-65	35-50	1.40-1.55	0.6-2	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28	
WaC2:										
Waynesboro---------	0-6	15-27	1.35-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-2.0	.37	.37	5
	6-65	35-50	1.40-1.55	0.6-2	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28	

Table 16.--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
	In	meq/100 g	meq/100 g	pH
AmB:				
Armour	0-17	---	---	5.1-6.0
	17-48	---	---	5.1-6.0
	48-75	---	---	5.1-6.0
AmC2:				
Armour	0-17	---	---	5.1-6.0
	17-48	---	---	5.1-6.0
	48-75	---	---	5.1-6.0
Ar:				
Arrington	0-25	---	---	6.1-7.8
	25-36	---	---	6.1-7.8
	36-60	---	---	6.1-7.8
AsC:				
Ashwood	0-6	25-35	---	5.6-7.8
	6-25	35-50	---	5.6-7.8
	25-35	---	---	---
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-37	---	13-25	4.5-6.0
	37-52	---	15-30	4.5-6.0
	52-62	---	---	---
Rock outcrop.				
AsE:				
Ashwood	0-6	25-35	---	5.6-7.8
	6-25	35-50	---	5.6-7.8
	25-30	---	---	---
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-37	---	13-25	4.5-6.0
	37-52	---	15-30	4.5-6.0
	52-60	---	---	---
Rock outcrop.				
BaC:				
Barfield	0-3	---	---	6.1-7.8
	3-14	---	---	6.1-7.8
	14-20	---	---	---
Ashwood	0-6	25-35	---	5.6-7.8
	6-25	35-50	---	5.6-7.8
	25-30	---	---	---
Rock outcrop.				
BaE:				
Barfield	0-3	---	---	6.1-7.8
	3-14	---	---	6.1-7.8
	14-20	---	---	---
Ashwood	0-6	25-35	---	5.6-7.8
	6-25	35-50	---	5.6-7.8
	25-30	---	---	---
Rock outcrop.				

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
BrB2:				
Bradyville	0-9	---	---	5.1-6.5
	9-41	---	---	5.1-6.0
	41-48	---	---	5.1-7.8
	48-52	---	---	---
BrC2:				
Bradyville	0-9	---	---	5.1-6.5
	9-41	---	---	5.1-6.0
	41-48	---	---	5.1-7.8
	48-52	---	---	---
BtB2:				
Braxton	0-7	---	---	5.1-6.0
	7-12	---	---	5.1-6.0
	12-74	---	---	5.1-6.5
BtC2:				
Braxton	0-7	---	---	5.1-6.0
	7-12	---	---	5.1-6.0
	12-74	---	---	5.1-6.5
BxC2:				
Braxton	0-7	---	---	5.1-6.0
	7-12	---	---	5.1-6.0
	12-74	---	---	5.1-6.5
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---
Rock outcrop.				
CaB:				
Capshaw	0-9	---	---	5.1-6.0
	9-19	---	---	5.1-6.0
	19-57	---	---	5.6-7.8
	57-65	---	---	---
DeC2:				
Dellrose	0-14	---	---	4.5-6.0
	14-62	---	---	4.5-6.0
DeD2:				
Dellrose	0-14	---	---	4.5-6.0
	14-62	---	---	4.5-6.0
DeE:				
Dellrose	0-14	---	---	4.5-6.0
	14-62	---	---	4.5-6.0
Ea:				
Eagleville	0-9	---	---	5.6-7.8
	9-27	---	---	5.6-7.8
	27-35	---	---	---
Eg:				
Egam	0-11	10-15	---	5.6-7.3
	11-47	15-25	---	5.6-7.3
	47-72	12-20	---	5.6-8.4
GaC:				
Gladeville	0-9	---	---	6.6-8.4
	9-15	---	---	---
Rock outcrop.	---	---	---	---

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
Gd:				
Godwin	0-10	---	---	6.1-7.3
	10-22	---	---	6.1-7.3
	22-60	---	---	6.1-7.3
Go:				
Godwin	0-10	---	---	6.1-7.3
	10-22	---	---	6.1-7.3
	22-60	---	---	6.1-7.3
HaB2:				
Hampshire	0-8	---	---	4.5-6.0
	8-46	---	---	4.5-6.0
	46-60	---	---	---
HaC2:				
Hampshire	0-8	---	---	4.5-6.0
	8-46	---	---	4.5-6.0
	46-60	---	---	---
HaC3:				
Hampshire	0-4	---	---	4.5-6.0
	4-41	---	---	4.5-6.0
	41-60	---	---	---
HaD2:				
Hampshire	0-8	---	---	4.5-6.0
	8-46	---	---	4.5-6.0
	46-60	---	---	---
HaD3:				
Hampshire	0-4	---	---	4.5-6.0
	4-41	---	---	4.5-6.0
	41-60	---	---	---
HrB:				
Harpeth	0-9	---	---	5.1-6.0
	9-60	---	---	5.1-6.5
HrC2:				
Harpeth	0-5	---	---	5.1-6.0
	5-60	---	---	5.1-6.5
HtC:				
Hawthorne	0-7	---	---	3.6-5.5
	7-28	---	---	3.6-5.5
	28-35	---	---	---
HtE:				
Hawthorne	0-7	---	---	3.6-5.5
	7-28	---	---	3.6-5.5
	28-35	---	---	---
HWE:				
Hawthorne	0-7	---	---	3.6-5.5
	7-28	---	---	3.6-5.5
	28-35	---	---	---
Dellrose	0-14	---	---	4.5-6.0
	14-62	---	---	4.5-6.0
Ln:				
Lindell	0-6	---	---	5.6-7.3
	6-60	---	---	5.6-7.3

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
MaE3:				
Marsh	0-3	---	---	4.5-6.5
	3-19	---	---	4.5-6.5
	19-23	---	---	4.5-6.5
	23-30	---	---	---
Stiversville	0-9	---	---	5.1-6.0
	9-45	---	---	5.1-6.0
	45-53	---	---	5.1-6.0
	53-65	---	---	---
MmC2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MmD2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MmE:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MmE2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MoC2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MoD2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
MoE2:				
Mimosa	0-5	---	9.0-16	4.5-6.0
	5-45	---	13-25	4.5-6.0
	45-52	---	15-30	4.5-6.0
	52-60	---	---	---
NeB:				
Nesbitt	0-7	---	---	5.1-6.0
	7-21	---	---	5.1-6.0
	21-40	---	---	5.1-6.0
	40-75	---	---	5.1-6.0
Pt:				
Pits, quarries.				
RoC:				
Rock outcrop.				
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
StB:				
Stiversville	0-9	---	---	5.1-6.0
	9-45	---	---	5.1-6.0
	45-54	---	---	5.1-6.0
	54-60	---	---	---
StC2:				
Stiversville	0-9	---	---	5.1-6.0
	9-45	---	---	5.1-6.0
	45-54	---	---	5.1-6.0
	54-60	---	---	---
StD2:				
Stiversville	0-9	---	---	5.1-6.0
	9-45	---	---	5.1-6.0
	45-54	---	---	5.1-6.0
	54-60	---	---	---
TaB2:				
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---
TaC2:				
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---
TbB:				
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---
TtC:				
Talbott	0-6	---	---	5.1-6.5
	6-32	---	---	5.1-6.5
	32-40	---	---	---
Rock outcrop.				
Tu:				
Tupelo	0-6	---	---	5.1-6.5
	6-12	---	---	5.1-6.5
	12-60	---	---	5.1-6.5
Ub:				
Urban land.				
WaB2:				
Waynesboro	0-6	---	5.0-12	4.5-5.5
	6-60	---	8.0-15	4.5-5.5
WaC2:				
Waynesboro	0-6	---	5.0-12	4.5-5.5
	6-60	---	8.0-15	4.5-5.5

Table 17.--Water Features

(Depths of layers are in feet. 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	Hydro-logic group	Month	Water table		Flooding	
			Upper limit	Lower limit	Duration	Frequency
AmB:						
Armour	B	All months	---	---	---	---
AmC2:						
Armour	B	All months	---	---	---	---
Ar:						
Arrington	B	January	4.0-6.0	> 5.0	Very brief	Frequent
		February	4.0-6.0	> 5.0	Very brief	Frequent
		March	4.0-6.0	> 5.0	Very brief	Frequent
		December	---	---	Very brief	Frequent
AsC:						
Ashwood	C	All months	---	---	---	---
Mimosa	C	All months	---	---	---	---
Rock outcrop.						
AsE:						
Ashwood	C	All months	---	---	---	---
Mimosa	C	All months	---	---	---	---
Rock outcrop.						
BaC:						
Barfield	D	All months	---	---	---	---
Ashwood	C	All months	---	---	---	---
Rock outcrop.						
BaE:						
Barfield	D	All months	---	---	---	---
Ashwood	C	All months	---	---	---	---
Rock outcrop.						
BrB2:						
Bradyville	C	All months	---	---	---	---
BrC2:						
Bradyville	C	All months	---	---	---	---
BtB2:						
Braxton	C	All months	---	---	---	---
BtC2:						
Braxton	C	All months	---	---	---	---
BxC2:						
Braxton	C	All months	---	---	---	---
Talbott	C	All months	---	---	---	---
Rock outcrop.						

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
CaB:						
Capshaw	C	January	2.0-3.5	> 5.0	---	---
		February	2.0-3.5	> 5.0	---	---
		March	2.0-3.5	> 5.0	---	---
		December	2.0-3.5	> 5.0	---	---
DeC2:						
Dellrose	B	All months	---	---	---	---
DeD2:						
Dellrose	B	All months	---	---	---	---
DeE:						
Dellrose	B	All months	---	---	---	---
Ea:						
Eagleville	D	January	1.0-2.0	> 5.0	Very brief	Frequent
		February	1.0-2.0	> 5.0	Very brief	Frequent
		March	1.0-2.0	> 5.0	Very brief	Frequent
		December	1.0-2.0	> 5.0	Very brief	Frequent
Eg:						
Egam	C	January	2.5-3.5	> 5.0	Very brief	Frequent
		February	2.5-3.5	> 5.0	Very brief	Frequent
		March	2.5-3.5	> 5.0	Very brief	Frequent
		April	---	---	Very brief	Frequent
		December	2.5-3.5	> 5.0	Very brief	Frequent
GaC:						
Gladeville	D	All months	---	---	---	---
Rock outcrop.						
Gd:						
Godwin	D	January	1.0-1.5	> 5.0	Very brief	Frequent
		February	1.0-1.5	> 5.0	Very brief	Frequent
		March	1.0-1.5	> 5.0	Very brief	Frequent
		December	1.0-1.5	> 5.0	Very brief	Frequent
Go:						
Godwin	D	January	1.0-1.5	> 5.0	Very brief	Frequent
		February	1.0-1.5	> 5.0	Very brief	Frequent
		March	1.0-1.5	> 5.0	Very brief	Frequent
		December	1.0-1.5	> 5.0	Very brief	Frequent
HaB2:						
Hampshire	C	All months	---	---	---	---
HaC2:						
Hampshire	C	All months	---	---	---	---
HaC3:						
Hampshire	C	All months	---	---	---	---
HaD2:						
Hampshire	C	All months	---	---	---	---
HaD3:						
Hampshire	C	All months	---	---	---	---
HrB:						
Harpeth	B	All months	---	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
HrC2:						
Harpeth	B	All months	---	---	---	---
HtC:						
Hawthorne	B	All months	---	---	---	---
HtE:						
Hawthorne	B	All months	---	---	---	---
HWE:						
Hawthorne	B	All months	---	---	---	---
Dellrose	B	All months	---	---	---	---
Ln:						
Lindell	C	January	2.0-3.0	> 5.0	Very brief	Frequent
		February	2.0-3.0	> 5.0	Very brief	Frequent
		March	2.0-3.0	> 5.0	Very brief	Frequent
		December	2.0-3.0	> 5.0	Very brief	Frequent
MaE3:						
Marsh	B	All months	---	---	---	---
Stiversville	B	All months	---	---	---	---
MmC2:						
Mimosa	C	All months	---	---	---	---
MmD2:						
Mimosa	C	All months	---	---	---	---
MmE:						
Mimosa	C	All months	---	---	---	---
MmE2:						
Mimosa	C	All months	---	---	---	---
MoC2:						
Mimosa	C	All months	---	---	---	---
MoD2:						
Mimosa	C	All months	---	---	---	---
MoE2:						
Mimosa	C	All months	---	---	---	---
NeB:						
Nesbitt	B	January	2.0-4.0	> 5.0	---	---
		February	2.0-4.0	> 5.0	---	---
		March	2.0-4.0	> 5.0	---	---
Pt:						
Pits, quarries.						
RoC:						
Rock outcrop.						
Talbott	C	All months	---	---	---	---
StB:						
Stiversville	B	All months	---	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Flooding: Duration	Flooding: Frequency
StC2:						
Stiversville	B	All months	---	---	---	---
StD2:						
Stiversville	B	All months	---	---	---	---
TaB2:						
Talbott	C	All months	---	---	---	---
TaC2:						
Talbott	C	All months	---	---	---	---
TbB:						
Talbott	C	All months	---	---	---	---
TtC:						
Talbott	C	All months	---	---	---	---
Rock outcrop.						
Tu:						
Tupelo	D	January	1.0-2.0	> 5.0	Brief	Occasional
		February	1.0-2.0	> 5.0	Brief	Occasional
		March	1.0-2.0	> 5.0	Brief	Occasional
		April	---	---	Brief	Occasional
		November	1.0-2.0	> 5.0	---	---
		December	1.0-2.0	> 5.0	Brief	Occasional
Ub:						
Urban land.						
WaB2:						
Waynesboro	B	All months	---	---	---	---
WaC2:						
Waynesboro	B	All months	---	---	---	---

Table 18.--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			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
AmB:					
Armour	---	---	---	Moderate	Moderate
AmC2:					
Armour	---	---	---	Moderate	Moderate
Ar:					
Arrington	---	---	---	Low	Low
AsC:					
Ashwood	Bedrock (lithic)	20-40	Indurated	High	Low
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
Rock outcrop.					
AsE:					
Ashwood	Bedrock (lithic)	20-40	Indurated	High	Low
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
Rock outcrop.					
BaC:					
Barfield	Bedrock (lithic)	8-20	Indurated	High	Low
Ashwood	Bedrock (lithic)	20-40	Indurated	High	Low
Rock outcrop.					
BaE:					
Barfield	Bedrock (lithic)	8-20	Indurated	High	Low
Ashwood	Bedrock (lithic)	20-40	Indurated	High	Low
Rock outcrop.					
BrB2:					
Bradyville	Bedrock (lithic)	40-60	Indurated	High	Moderate
BrC2:					
Bradyville	Bedrock (lithic)	40-60	Indurated	High	Moderate
BtB2:					
Braxton	---	---	---	High	Moderate
BtC2:					
Braxton	---	---	---	High	Moderate
BxC2:					
Braxton	---	---	---	High	Moderate
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate
Rock outcrop.					
CaB:					
Capshaw	Bedrock (lithic)	40-80	Indurated	High	Moderate

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
DeC2:					
Dellrose	---	---	---	High	Moderate
DeD2:					
Dellrose	---	---	---	High	Moderate
DeE:					
Dellrose	---	---	---	High	Moderate
Ea:					
Eagleville	Bedrock (lithic)	20-40	Indurated	High	Low
Eg:					
Egam	---	---	---	High	Low
GaC:					
Gladeville	Bedrock (lithic)	3-12	Indurated	High	Low
Rock outcrop.					
Gd:					
Godwin	---	---	---	High	Low
Go:					
Godwin	---	---	---	High	Low
HaB2:					
Hampshire	Bedrock (paralithic)	40-60	Very strongly cemented	High	Moderate
HaC2:					
Hampshire	Bedrock (paralithic)	40-60	Very strongly cemented	High	Moderate
HaC3:					
Hampshire	Bedrock (paralithic)	40-60	Very strongly cemented	High	Moderate
HaD2:					
Hampshire	Bedrock (paralithic)	40-60	Very strongly cemented	High	Moderate
HaD3:					
Hampshire	Bedrock (paralithic)	40-60	Very strongly cemented	High	Moderate
HrB:					
Harpeth	---	---	---	Moderate	Moderate
HrC2:					
Harpeth	---	---	---	Moderate	Moderate
HtC:					
Hawthorne	Bedrock (paralithic)	20-40	Very strongly cemented	Low	High
HtE:					
Hawthorne	Bedrock (paralithic)	20-40	Very strongly cemented	Low	High
HWE:					
Hawthorne	Bedrock (paralithic)	20-40	Very strongly cemented	Low	High

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
HWE:					
Dellrose	---	---	---	High	Moderate
Ln:					
Lindell	---	---	---	Moderate	Low
MaE3:					
Marsh	Bedrock (paralithic)	20-40	Very strongly cemented	Low	Moderate
Stiversville	Bedrock (paralithic)	40-60	Very strongly cemented	Moderate	Moderate
MmC2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MmD2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MmE:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MmE2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MoC2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MoD2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
MoE2:					
Mimosa	Bedrock (lithic)	40-60	Indurated	High	Moderate
NeB:					
Nesbitt	---	---	---	High	Moderate
Pt:					
Pits, quarries.					
RoC:					
Rock outcrop.					
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate
StB:					
Stiversville	Bedrock (paralithic)	40-60	Indurated	Moderate	Moderate
StC2:					
Stiversville	Bedrock (paralithic)	40-60	Indurated	Moderate	Moderate
StD2:					
Stiversville	Bedrock (paralithic)	40-60	Indurated	Moderate	Moderate
TaB2:					
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate
TaC2:					
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
TbB:					
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate
TtC:					
Talbott	Bedrock (lithic)	20-40	Indurated	High	Moderate
Rock outcrop.					
Tu:					
Tupelo	---	---	---	High	Moderate
Ub:					
Urban land.					
WaB2:					
Waynesboro	---	---	---	High	High
WaC2:					
Waynesboro	---	---	---	High	High

Table 19.--Classification of the Soils

Soil name	Family or higher taxonomic class
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
Bradyville	Fine, mixed, active, thermic Typic Hapludalfs
Braxton	Fine, mixed, active, thermic Typic Paleudalfs
Capshaw	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
Dellrose	Fine-loamy, mixed, semiactive, thermic Typic Paleudults
Eagleville	Fine, smectitic, thermic Fluvaquentic Vertic Endoaquolls
Egam	Fine, mixed, active, thermic Cumulic Hapludolls
Gladeville	Clayey-skeletal, mixed, active, thermic Lithic Haprendolls
Godwin	Fine, mixed, active, thermic Cumulic Endoaquolls
Hampshire	Fine, mixed, active, thermic Ultic Hapludalfs
Harpeth	Fine-silty, mixed, active, thermic Typic Paleudalfs
Hawthorne	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Lindell	Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts
Marsh	Fine-loamy, mixed, semiactive, thermic Ultic Hapludalfs
Mimosa	Fine, mixed, semiactive, thermic Typic Hapludalfs
Nesbitt	Fine-silty, siliceous, semiactive, thermic Aquic Paleudalfs
Stiversville	Fine-loamy, mixed, active, thermic Ultic Hapludalfs
Talbott	Fine, mixed, semiactive, thermic Typic Hapludalfs
Tupelo	Fine, mixed, semiactive, thermic Aquic Hapludalfs
Waynesboro	Fine, kaolinitic, thermic Typic Paleudults